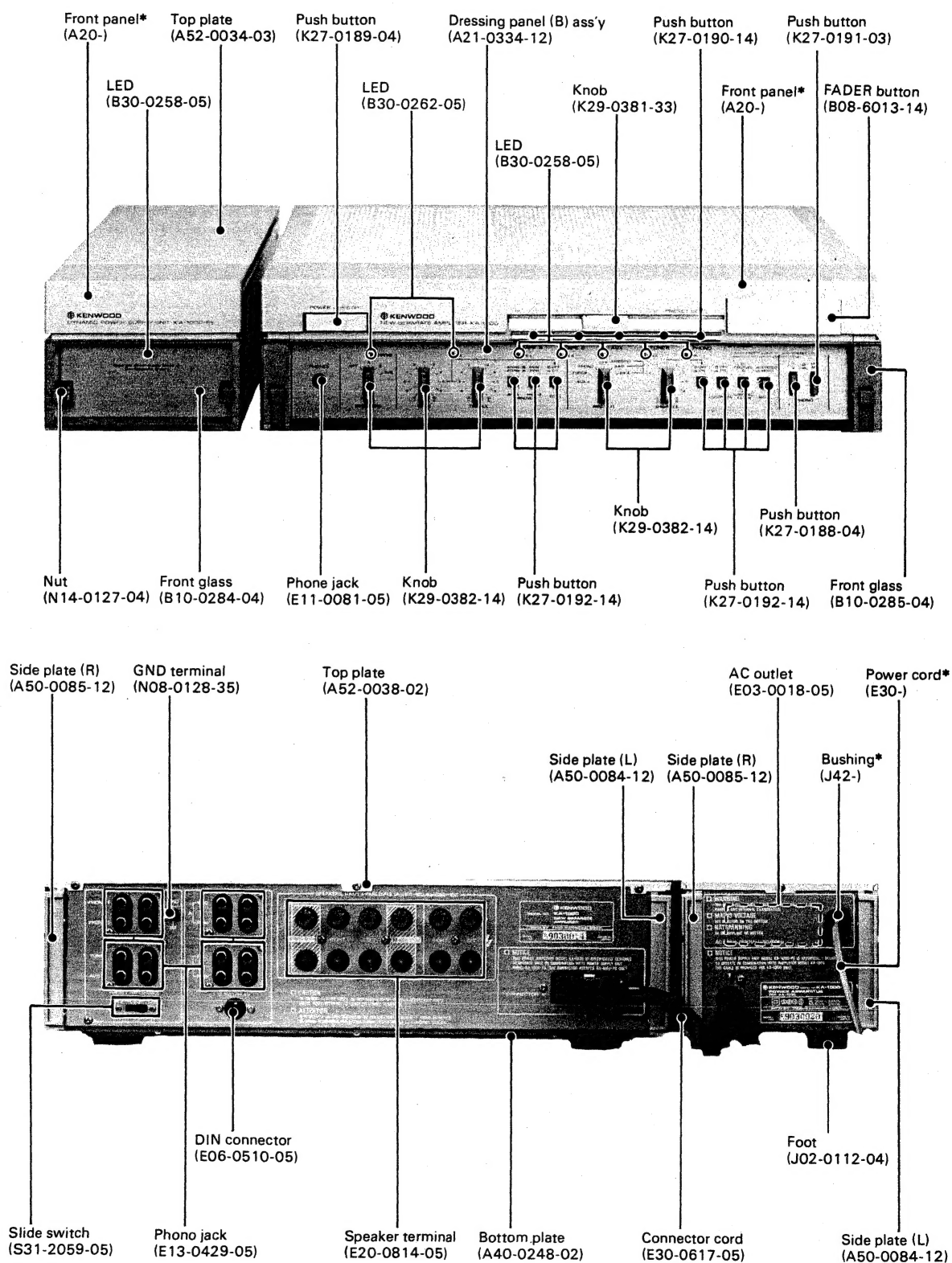


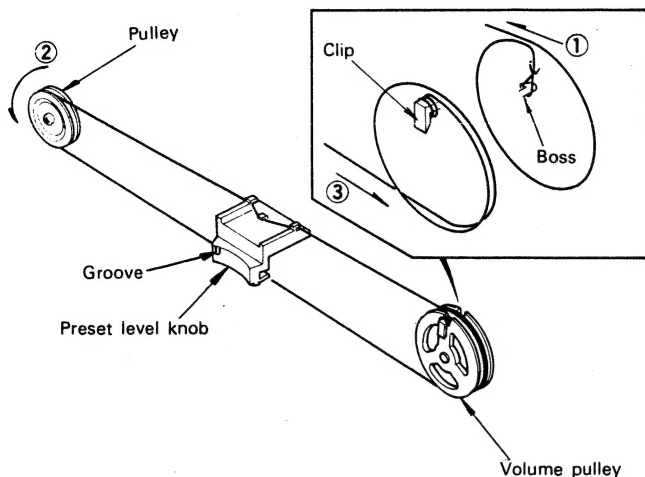
## NEW SEPARATE AMPLIFIER



\*Refer to Parts List on page 10.  
This photo is E type.

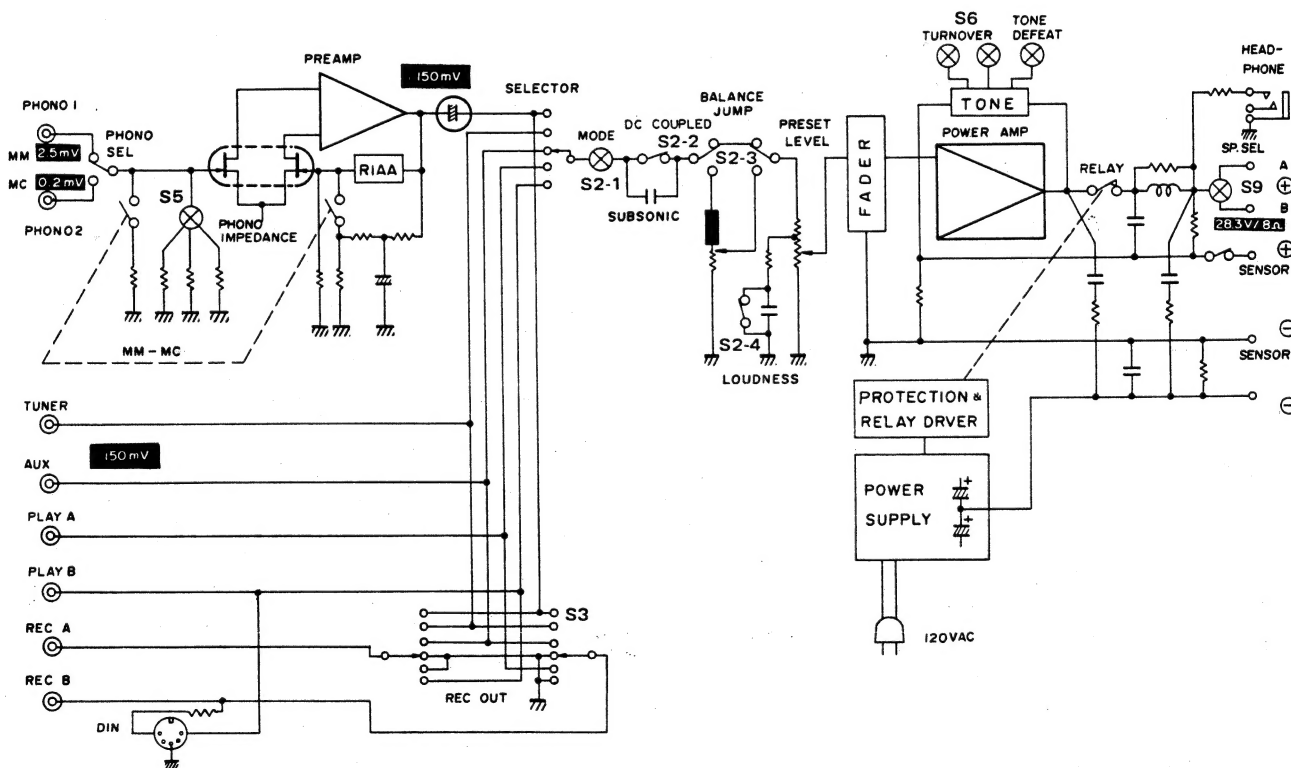
## DIAL CORD STRINGING/BLOCK DIAGRAM

### DIAL CORD STRINGING



1. Tie the dial cord to the boss of volume pulley.
2. Set volume pulley to the volume shaft and turn it counterclockwise till it stops.
3. Dress the dial cord to volume pulley counterclockwise 1 turn starting from the upper side as shown ( ① ).
4. Stretch and hook the dial cord to the pulley and dress it to the volume pulley from the lower side 1 and a half turn ( ② ③ ).
5. Be sure to wind the end of the dial cord firmly to the clip of the volume pulley, so that it is tightly stretched.
6. Make sure that volume pulley is fully turned counterclockwise and fix the preset level knob by adhesive. Check that the groove of the preset level knob aligns with the O mark on the panel.

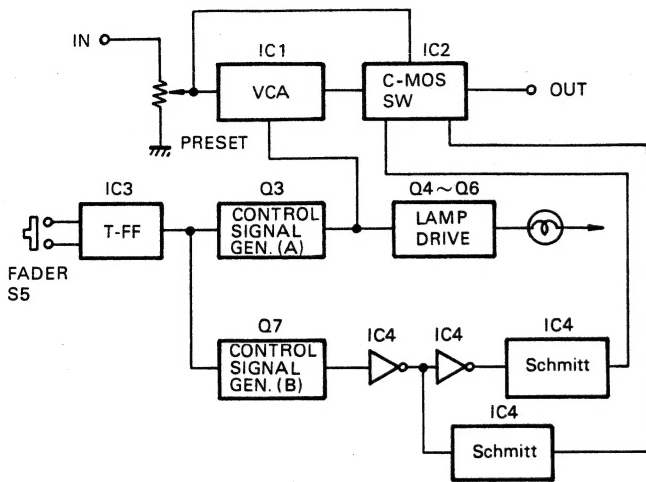
### BLOCK DIAGRAM



## CIRCUIT DESCRIPTION

### FADER Circuit

The block diagram of the FADER circuit is shown below. When the power is turned on, it automatically fades in to the preset level. After then, fader effect can be obtained by a light push on the FADER button.



The output of T-type flip flop changes its state every time the FADER button is pressed. The state of the output, either high or low level, determines the function. This state is sent to control signal generators (CSG) (A) and (B). The CSG (A) will output the signal for the voltage controlled amplifier (VCA) and lamp driver to decrease or increase sound voltage and brightness, respectively. The CGS (B) outputs a control signal for C-MOS switches to select either of the direct signal or voltage controlled signal.

### Protection Circuit for Misconnected Sigma Cord

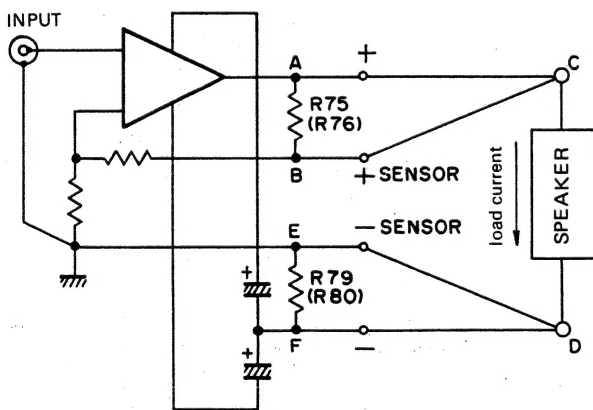


Fig. 1

Simplified schematic diagram is shown above. In this diagram, resistors R75, 79 are by-pass resistors which will let the amplifier work as an conventional amplifier in case the sigma sensor cord has been detached.

When one of the four normally connected sigma speaker cord (+, -, +Σ sensor, -Σ sensor) is detached by mistake or by accident, the following protection will go in effect.

In the following description sigma speaker cords are first correctly connected to each terminal. Also, speaker selector is set to A for Σ drive. In this condition, the load current passage will be A → C → D → F.

- (1) When only + signal cord is detached:

In this case, load current passage will be A → B → C → D → F. For R75 to withstand the power and not to be burned, the following calculation is done to figure out the value.

Suppose the power consumption to be 1 watt.

$$P = \frac{V^2}{R} \quad R = \frac{V^2}{P}$$

$$V = 25 (V) \quad P = 1 (W)$$

$$\therefore R = 625 (\Omega)$$

In the actual circuit, 560Ω 2W is used. Since this 560Ω will be in series to the speaker (8Ω), sound level will greatly drop.

- (2) When only +Σ sensor or -Σ sensor cord is detached: In this case, load current passage will be A → C → D → F. Even if sigma sensor cord has been detached, NFB loop is completed through by-pass resistor R75 or R79. Thus this amplifier will act as a conventional amplifier.

- (3) When - signal cord is detached:

In this case, load current passage will be A → C → D → E → F. Since R79 is 3.3Ω, almost the same power will be consumed.

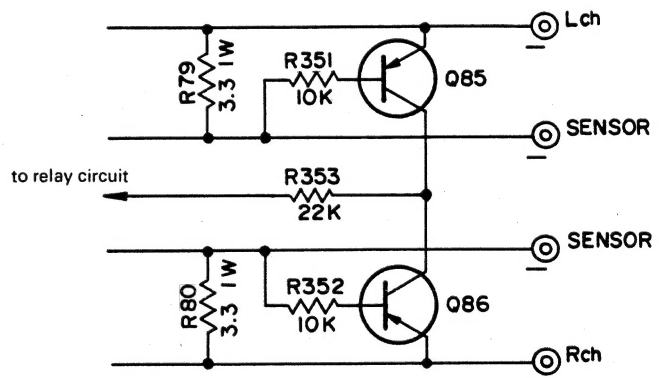
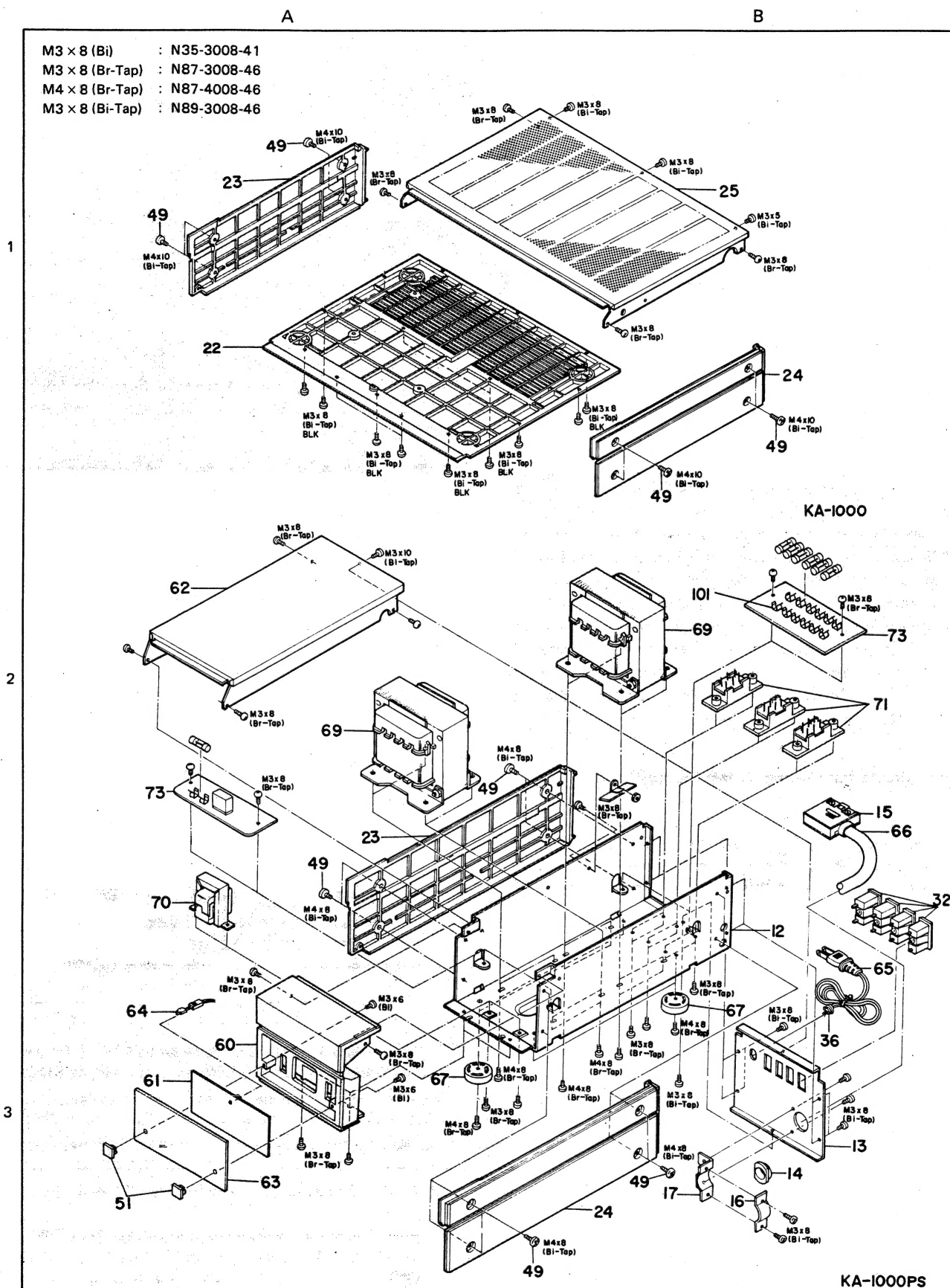


Fig. 2

When a great power is consumed at R79 (3.3Ω), in another words when VBE of Q85 exceeds 0.6V, Q85 is turned ON. This will activate Q66 to cut the relay OFF. This protection circuit works as a kind of a limiter. For this reason, relay will recover in a short time. Unless the detached - signal cord is correctly connected, relay will repeat ON-OFF routine and prevents R79 to be burned.

For detail of C-MOS analog switch IC, voltage controlled amplifier IC (AN5733), voltage regulator using FET and T flip-flop (DN819), refer to KA-800 Service Manual.

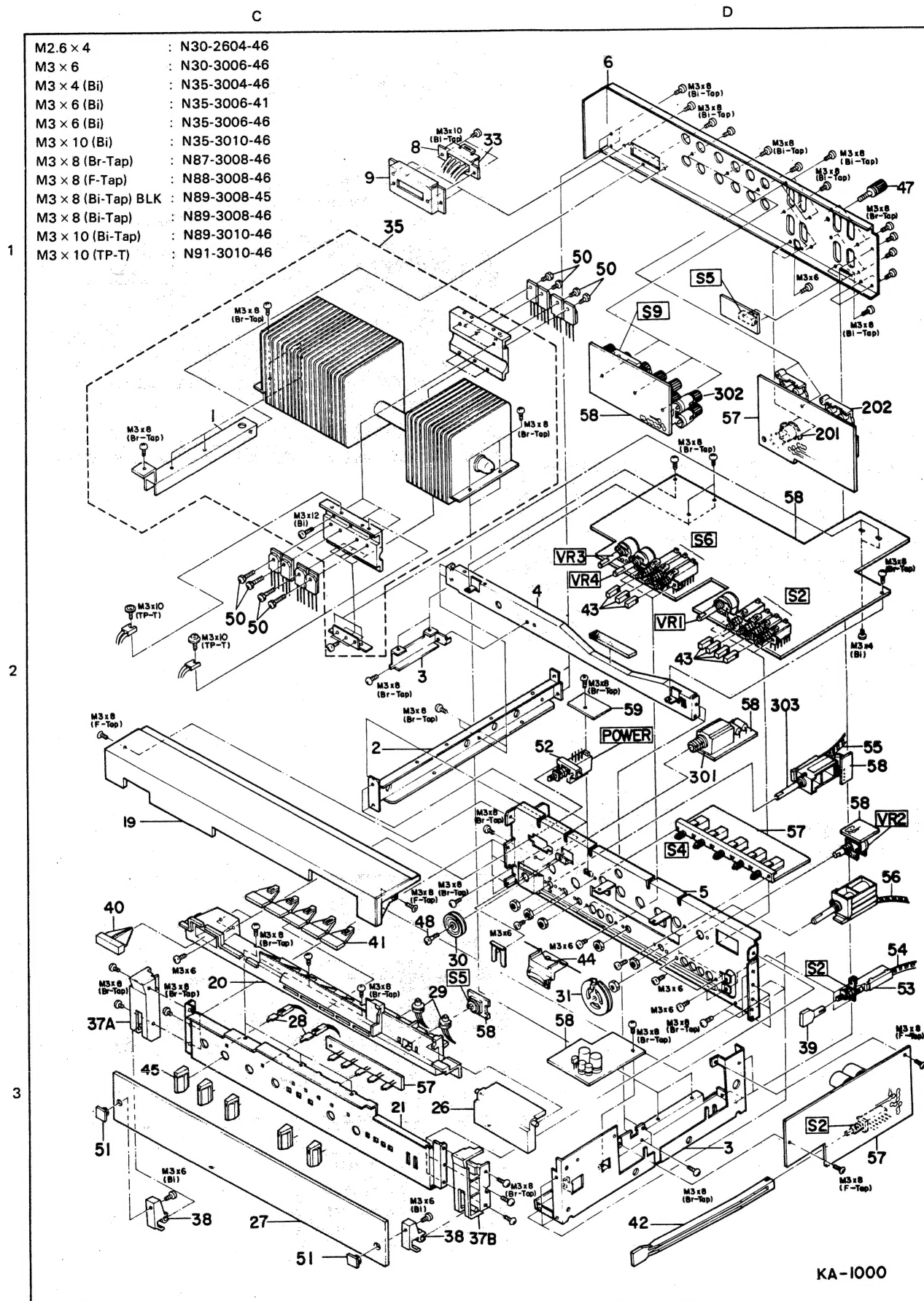
## EXPLODED VIEW



Refer to parts list on page 10.



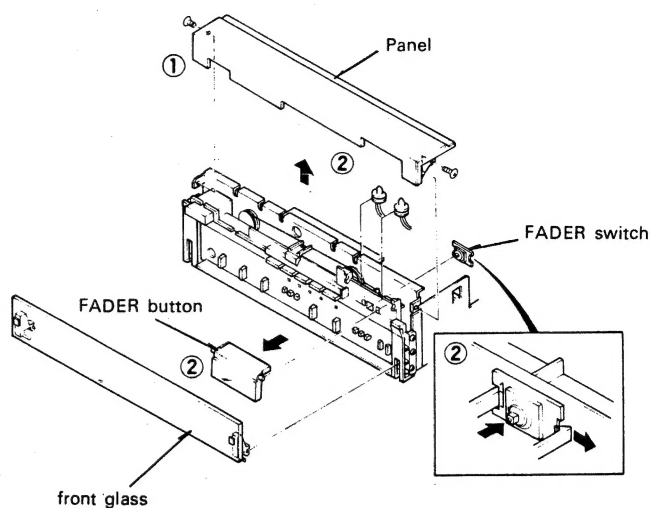
## EXPLODED VIEW



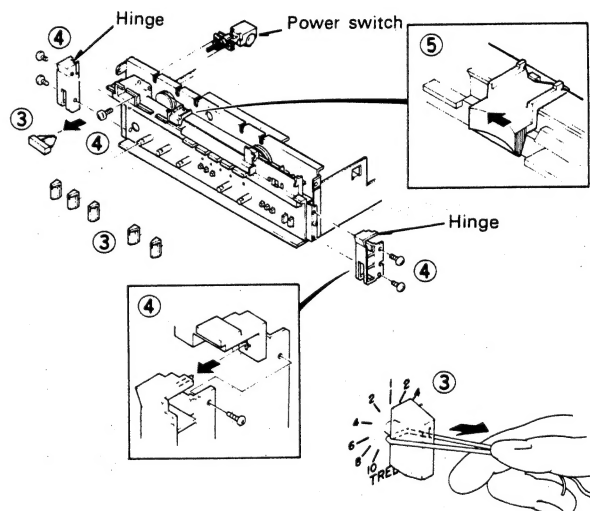
Refer to parts list on page 10.

## DISASSEMBLY FOR REPLACEMENT

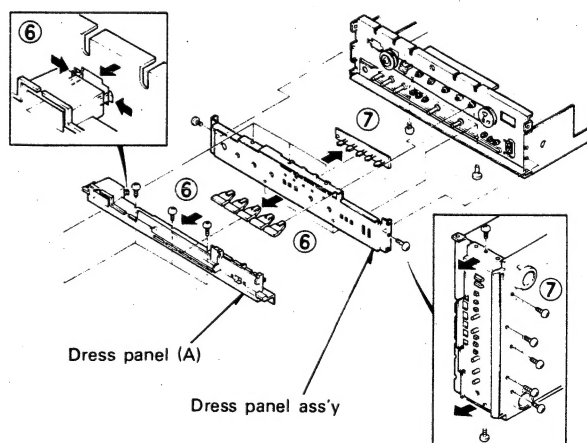
1. Remove side plate, top plate, panel and the front glass.
2. Remove FADER button and FADER lamp. Now, you can remove the FADER switch (S5) pc board by spreading the claws outward and pushing the switch from the front.



3. Remove the power switch button and knobs for BASS, TREBLE, BALANCE etc. by pulling them toward yourself. If they cannot be removed by hand, wind a covered wire around the shaft and pull.
4. Remove screws of the power switch. Remove screws at the side of the hinge and pull it to the direction of the arrow as shown. This hinge serves as a rivet to hold dress panel (A) to the chassis. For this reason, **please proceed after you remove this hinge.**
5. Preset level knob can be removed after the adhesive is taken off and slid to the left.



6. Remove dress panel (A) by pinching the claws inward and pushing it toward the front. Now, INPUT selector button can be removed.
7. Remove 5 screws at the front side of the bottom plate, also 2 screws at sides of dress panel ass'y and pull frontward. Now LED pc board for INPUT selector can be removed.



## ADJUSTMENT/REGLAGES/ABGLEICH

### ADJUSTMENT

#### OFFSET AND IDLE CURRENT

##### — Before adjustments —

This adjustment must be done without dummy load connected.

1. Remove top cover.
2. This amplifier uses heat pipe. For this reason, amplifier must be kept horizontal for accurate adjustment.
3. Before turning the power ON, turn potentiometers VR7 and 8 fully counterclockwise.
4. Set preset level to 0.
5. Follow steps 6 through 10 within 1 minute, after you turn the power ON.

##### — Adjustment —

6. Connect a DC voltmeter between TP1 and 3 (TP2 and 4 for right channel) of preamp unit (X08-185\*.\*).
7. Adjust VR1 (VR2) for a 0V reading of the DC voltmeter (PREAMP OFFSET).
8. Connect a DC voltmeter to speaker terminals.
9. Set the SPEAKERS switch to A+B and the PRESET LEVEL to 0.
10. Adjust CENTER ADJ VR5 (VR6) for 0V reading of the DC voltmeter (AUDIO AMP OFFSET).
11. Connect a DC voltmeter between TP25 and 23 (TP26 and 24) of audio amp unit (X09-160\*.\*).
12. After 2 minutes adjust IDLE ADJ VR7 (VR8) for 2 ~ 3 mV reading of the DC voltmeter (IDLE CURRENT).
13. Leave the power switch ON for 10 minutes.
14. Check that OFFSET voltages are 0V and voltage between TP25 and 23 (TP26 and 24) is now 4 ~ 5 mV.
15. If necessary, adjust each potentiometers again.
16. Place top cover.
17. After performing these adjustments IDLE current of 30 mA will flow.

### REGLAGES

#### DECALAGE ET COURANT DE POLARISATION

##### — Avant les réglages —

Ce réglage sera effectué sans connecter l'antenne artificielle.

1. Retirer le couvercle du haut.
2. Cet amplificateur est équipé d'un caloduc. Il faudra donc maintenir l'amplificateur à l'horizontale pour obtenir un réglage précis.
3. Avant avoir placé l'appareil sous tension, tourner les potentiomètres VR7 et 8 à fond dans le sens inversé de celui des aiguilles d'une montre.
4. Régler PRESET LEVEL au 0.
5. Procéder aux opérations 6 à 10 dans 1 minute, après avoir placé l'appareil sous tension.

##### — Réglage —

6. Brancher un voltmètre de C.C. entre TP1 et 3 (TP2 et 4 pour le canal de droite) du bloc préamplificateur (X08-185\*.\*).
7. Régler VR1 (VR2) de façon à ce que le voltmètre de C.C. indique 0V (OFFSET).
8. Brancher un voltmètre de C.C. aux bornes du haut-parleur.
9. Régler SPEAKERS interrupteur au A+B et PRESET LEVEL à 0.
10. Régler CENTER ADJ. VR5 (VR6) de façon à ce que le voltmètre de C.C. indique 0V. (OFFSET).
11. Brancher un voltmètre de C.C. entre TP25 et 23 (TP26 et 24) du bloc amplificateur audio (X09-160\*.\*).
12. Après 2 minutes, régler IDLE ADJ VR7 (VR8) de façon à ce que le voltmètre de C.C. indique 2 ~ 3 mV (COURANT DE POLARISATION).
13. Maintenir le commutateur d'alimentation en position de marche pendant 10 minutes.
14. Vérifier que les voltages correspondent à 0V et s'assurer que le voltage entre TP25 et 23 corresponde maintenant à 4 ~ 5 mV.
15. Si cela s'avère nécessaire, procéder à nouveau au réglage de chaque potentiomètre.
16. Placer le couvercle de haut.
17. A la suite de ces divers réglages, le passage du courant de polarisation de 30 mV sera assuré.

## ADJUSTMENT/REGLAGES/ABGLEICH

### ABGLEICH

#### VERSCHIEBUNG UND LEERLAUFSTROM

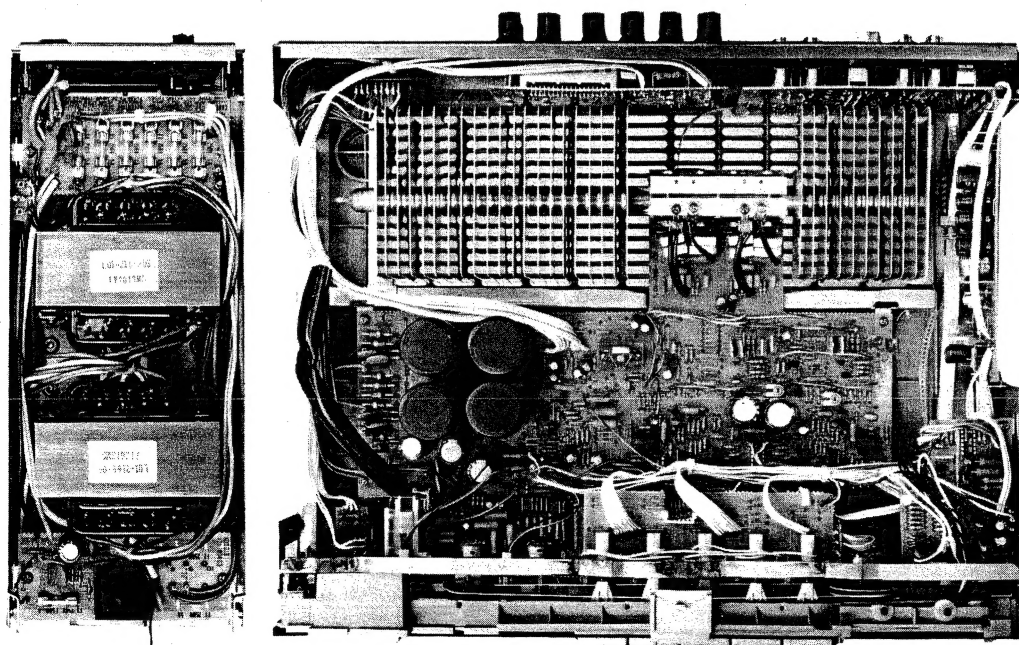
##### — Vor die Abgleich —

Dieser Abgleich wird ohne die künstliche Antenne anzuschließen ausgeführt

1. Die obere Abdeckung entfernen.
2. Dieser Verstärker ist mit einem Wärmerohr ausgestattet. Aus diesem Grund soll er in horizontaler Lage bleiben um eine genaue Einstellung zu ermöglichen.
3. Vor Einschalten das Potentiometers VR7 und 8 drehen voll gegen den Uhrzeigersinn.
4. Den PRESEL LEVEL Knopf auf 0.
5. Nach Einschalten die Schritte b6 bis 10 binnen 1 Minuten ausführen.

##### — Abgleich —

6. Einen Gleichspannungsmesser zwischen TP1 und 3 (TP2 und 4 für den rechten Kanal) des Vorverstärkers (X08-185\*-.\*\*) anschließen.
7. Den VR1 (VR2) so regulieren, daß die Gleichspannungsmesser-Ablesung 0V ist (VERSCHIEBUNG).
8. Einen Gleichspannungsmesser an die Lautsprecherklemmen anschließen.
9. Den Schalter SPEAKERS auf A+B und den PRESET VOLUME auf 0 einstellen.
10. Den CENTER ADJ. VR5 (VR6) so regulieren, daß die Gleichspannungsmesser-Ablesung 0V ist (VERSCHIEBUNG).
11. Einen Gleichspannungsmesser zwischen TP25 und 23 (TP26 und 24) des Tonverstärker (X09-160\*-.\*\*) anschließen.
12. Nach 2 Minuten, den IDLE ADJ VR7 (VR8) so regulieren, daß die Gleichspannungsmesser-Ablesung 2 ~ 3 mV ist (LEERLAUFSTROM).
13. Den Netzschalter 10 Minuten lang eingeschaltet lassen.
14. Nachprüfen, ob die Verschiebespannungen 0V sind und die Spannung zwischen TP25 und 23 jetzt 4~5 mV beträgt.
15. Die Potentiometer erforderlichenfalls nochmals entsprechend einstellen.
16. Den oberen Deckel anbringen.
17. Nach diesen Einstellungen fließt ein Ruhestrom von 30 mV.

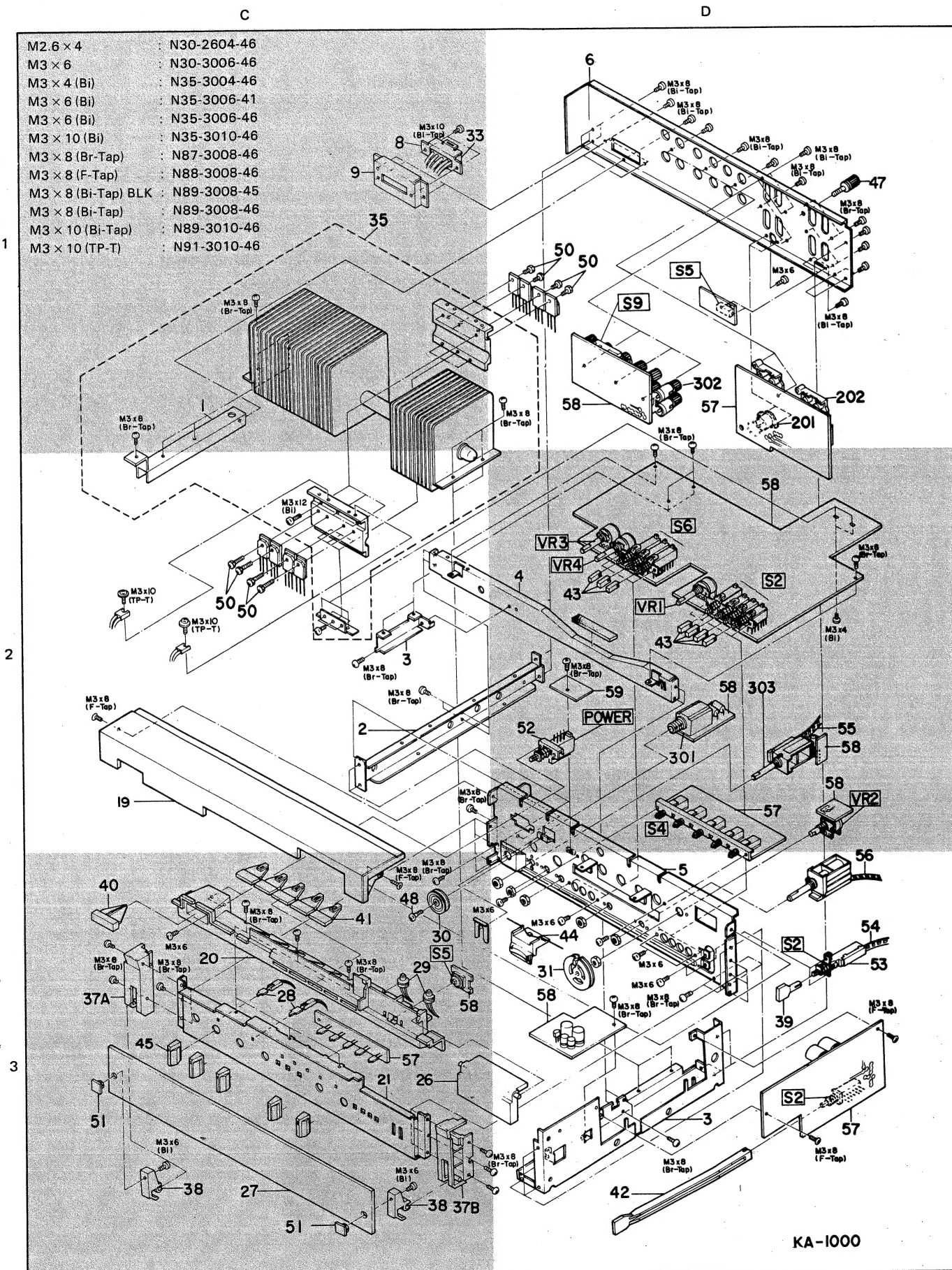


PREAMP	AUDIO AMP	
	L	R
TP3 VR1 TP1 (OFFSET)		
	TP25 TP23	TP26 TP24
TP2 VR2 TP4 (OFFSET)		
	VR7 (IDLE)	VR8 (IDLE)
	VR5 (OFFSET)	VR6 (OFFSET)

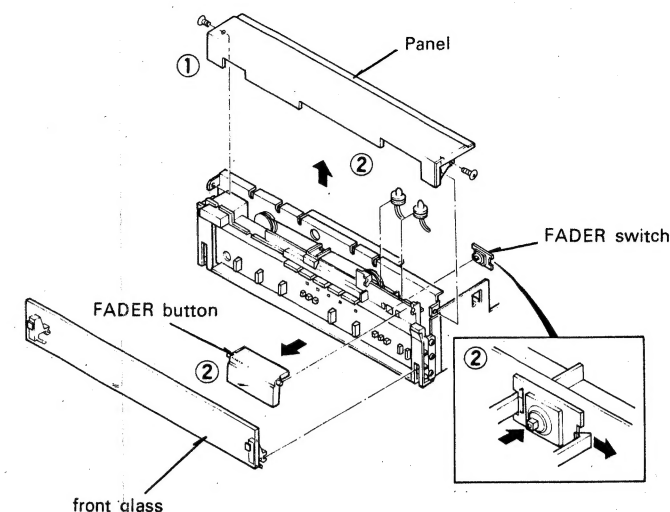


## EXPLODED VIEW

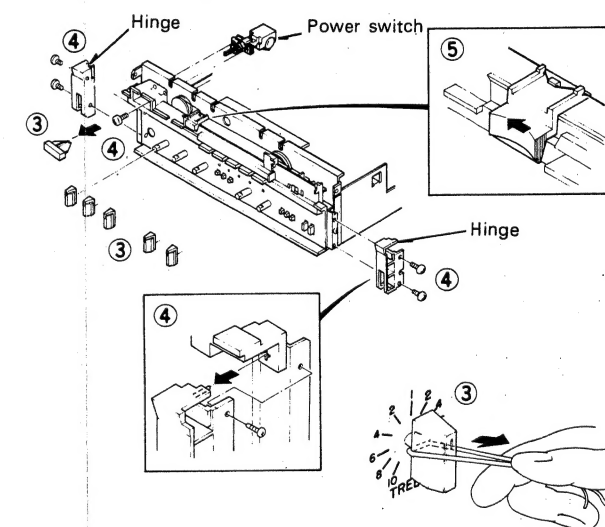
## DISASSEMBLY FOR REPLACEMENT



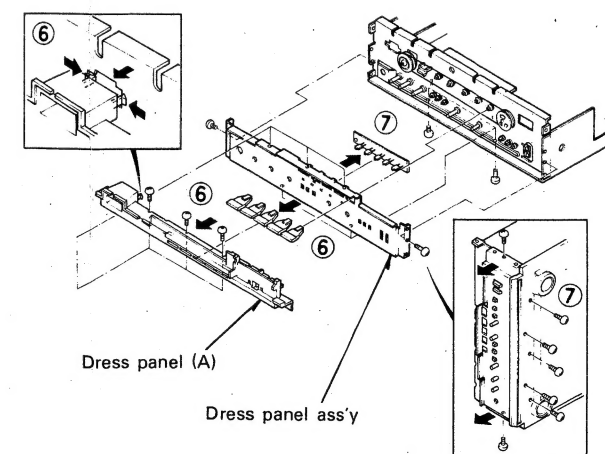
1. Remove side plate, top plate, panel and the front glass.
2. Remove FADER button and FADER lamp. Now, you can remove the FADER switch (S5) pc board by spreading the claws outward and pushing the switch from the front.



3. Remove the power switch button and knobs for BASS, TREBLE, BALANCE etc. by pulling them toward yourself. If they cannot be removed by hand, wind a covered wire around the shaft and pull.
4. Remove screws of the power switch. Remove screws at the side of the hinge and pull it to the direction of the arrow as shown. This hinge serves as a rivet to hold dress panel (A) to the chassis. For this reason, **please proceed after you remove this hinge.**
5. Preset level knob can be removed after the adhesive is taken off and slided to the left.



6. Remove dress panel (A) by pinching the claws inward and pushing it toward the front. Now, INPUT selector button can be removed.
7. Remove 5 screws at the front side of the bottom plate, also 2 screws at sides of dress panel ass'y and pull frontward. Now LED pc board for INPUT selector can be removed.



Refer to parts list on page 10.

ADJUSTMENT/REGLAGES/ABGLEICH

ADJUSTMENT

OFFSET AND IDLE CURRENT

— Before adjustments —

This adjustment must be done without dummy load connected.

- 1. Remove top cover.
- 2. This amplifier uses heat pipe. For this reason, amplifier must be kept horizontal for accurate adjustment.
- 3. Before turning the power ON, turn potentiometers VR7 and 8 fully counterclockwise.
- 4. Set preset level to 0.
- 5. Follow steps 6 through 10 within 1 minute, after you turn the power ON.

REGLAGES

DECALAGE ET COURANT DE POLARISATION

— Avant les réglages —

Ce réglage sera effectué sans connecter l'antenne artificielle.

- 1. Retirer le couvercle du haut.
- 2. Cet amplificateur est équipé d'un caloduc. Il faudra donc maintenir l'amplificateur à l'horizontale pour obtenir un réglage précis.
- 3. Avant avoir placé l'appareil sous tension, tourner les potentiomètres VR7 et 8 à fond dans le sens invers de celui des aiguilles d'une montre.
- 4. Régler PRESET LEVEL au 0.
- 5. Procéder aux opérations 6 à 10 dans 1 minute, après avoir placé l'appareil sous tension.

— Adjustment —

- 6. Connect a DC voltmeter between TP1 and 3 (TP2 and 4 for right channel) of preamp unit (X08-185\*.\*\*).
- 7. Adjust VR1 (VR2) for a 0V reading of the DC voltmeter (PREAMP OFFSET).
- 8. Connect a DC voltmeter to speaker terminals.
- 9. Set the SPEAKERS switch to A+B and the PRESET LEVEL to 0.
- 10. Adjust CENTER ADJ VR5 (VR6) for 0V reading of the DC voltmeter (AUDIO AMP OFFSET).
- 11. Connect a DC voltmeter between TP25 and 23 (TP26 and 24) of audio amp unit (X09-160\*.\*\*).
- 12. After 2 minutes adjust IDLE ADJ VR7 (VR8) for 2 ~ 3 mV reading of the DC voltmeter (IDLE CURRENT).
- 13. Leave the power switch ON for 10 minutes.
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- 15. If necessary, adjust each potentiometers again.
- 16. Place top cover.
- 17. After performing these adjustments IDLE current of 30 mA will flow.

— Réglage —

- 6. Brancher un voltmètre de C.C. entre TP1 et 3 (TP2 et 4 pour le canal de droite) du bloc préamplificateur (X08-185\*.\*\*).
- 7. Régler VR1 (VR2) de façon à ce que le voltmètre de C.C. indique 0V (OFFSET).
- 8. Brancher un voltmètre de C.C. aux bornes du haut-parleur.
- 9. Régler SPEAKERS interrupteur au A+B et PRESET LEVEL à 0.
- 10. Régler CENTER ADJ. VR5 (VR6) de façon à ce que le voltmètre de C.C. indique 0V. (OFFSET).
- 11. Brancher un voltmètre de C.C. entre TP25 et 23 (TP26 et 24) du bloc amplificateur audio (X09-160\*.\*\*).
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- 13. Maintenir le commutateur d'alimentation en position de marche pendant 10 minutes.
- 14. Vérifier que les voltages correspondent à 0V et s'assurer que le voltage entre TP25 et 23 corresponde maintenant à 4~5 mV.
- 15. Si cela s'avère nécessaire, procéder à nouveau au réglage de chaque potentiomètre.
- 16. Placer le couvercle de haut.
- 17. A la suite de ces divers réglages, le passage du courant de polarisation de 30 mV sera assuré.

ADJUSTMENT/REGLAGES/ABGLEICH

ABGLEICH

VERSCHIEBUNG UND LEERLAUFSTROM

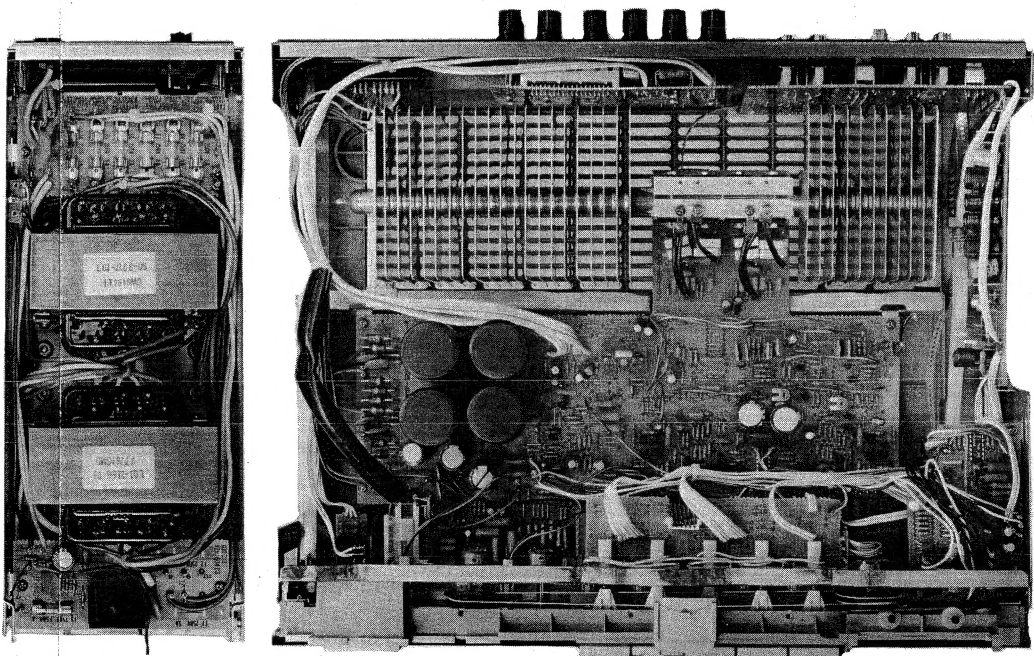
— Vor die Abgleich —

Dieser Abgleich wird ohne die künstliche Antenne anzuschließen ausgeführt.

- 1. Die obere Abdeckung entfernen.
- 2. Dieser Verstärker ist mit einem Wärmerohr ausgestattet. Aus diesem Grund soll er in horizontaler Lage bleiben um eine genaue Einstellung zu ermöglichen.
- 3. Vor Einschalten des Potentiometers VR7 und 8 drehen voll gegen den Uhrzeigersinn.
- 4. Den PRESEL LEVEL Knopf auf 0.
- 5. Nach Einschalten die Schritte b6 bis 10 binnen 1 Minuten ausführen.

— Abgleich —

- 6. Einen Gleichspannungsmesser zwischen TP1 und 3 (TP2 und 4 für den rechten Kanal) des Vorverstärkers (X08-185\*.\*\*\*) anschließen.
- 7. Den VR1 (VR2) so regulieren, daß die Gleichspannungsmesser-Ablesung 0V ist (VERSCHIEBUNG).
- 8. Einen Gleichspannungsmesser an die Lautsprecherklemmen anschließen.
- 9. Den Schalter SPEAKERS auf A+B und den PRESET VOLUME auf 0 einstellen.
- 10. Den CENTER ADJ. VR5 (VR6) so regulieren, daß die Gleichspannungsmesser-Ablesung 0V ist. (VERSCHIEBUNG).
- 11. Einen Gleichspannungsmesser zwischen TP25 und 23 (TP26 und 24) des Tonverstärker (X09-160\*.\*\*\*) anschließen.
- 12. Nach 2 Minuten, den IDLE ADJ VR7 (VR8) so regulieren, daß die Gleichspannungsmesser-Ablesung 2 ~ 3 mV ist (LEERLAUFSTROM).
- 13. Den Netzschalter 10 Minuten lang eingeschaltet lassen.
- 14. Nachprüfen, ob die Verschiebespannungen 0V sind und die Spannung zwischen TP25 und 23 jetzt 4~5 mV beträgt.
- 15. Die Potentiometer erforderlichenfalls nochmals entsprechend einstellen.
- 16. Den oberen Deckel anbringen.
- 17. Nach diesen Einstellungen fließt ein Ruhestrom von 30 mV.



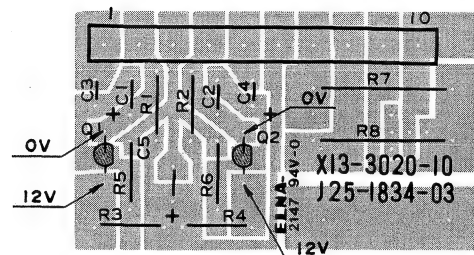
PREAMP	AUDIO AMP	
	L	R
TP3 TP1 VR1 (OFFSET)		
	TP25 TP23	TP26 TP24
TP2 VR2 TP4 (OFFSET)		
	VR7 (IDLE)	VR8 (IDLE)
	VR5 (OFFSET)	VR6 (OFFSET)



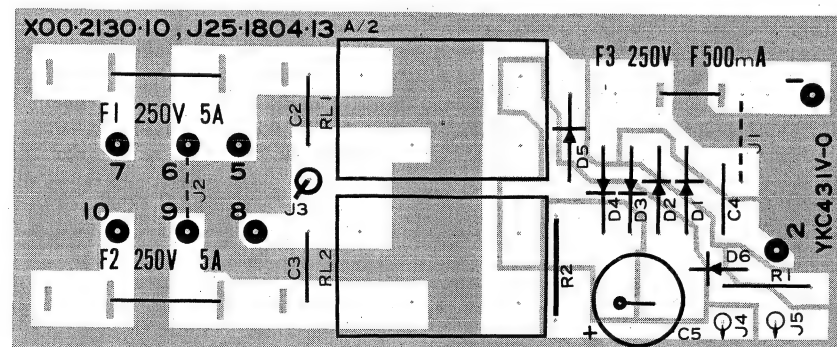
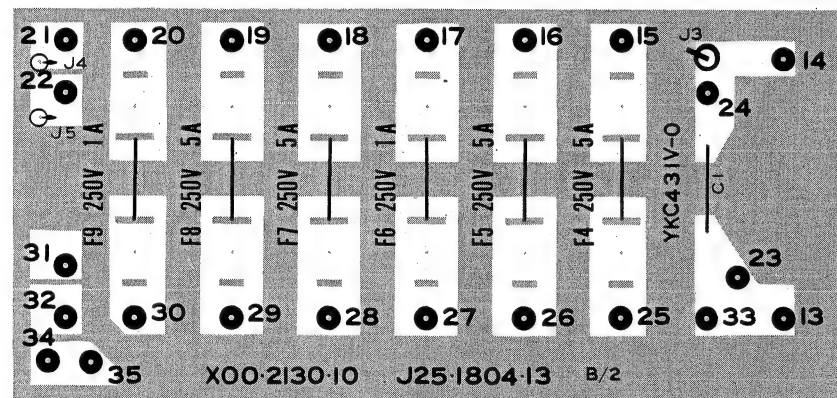
## PC BOARD

# KA-1000

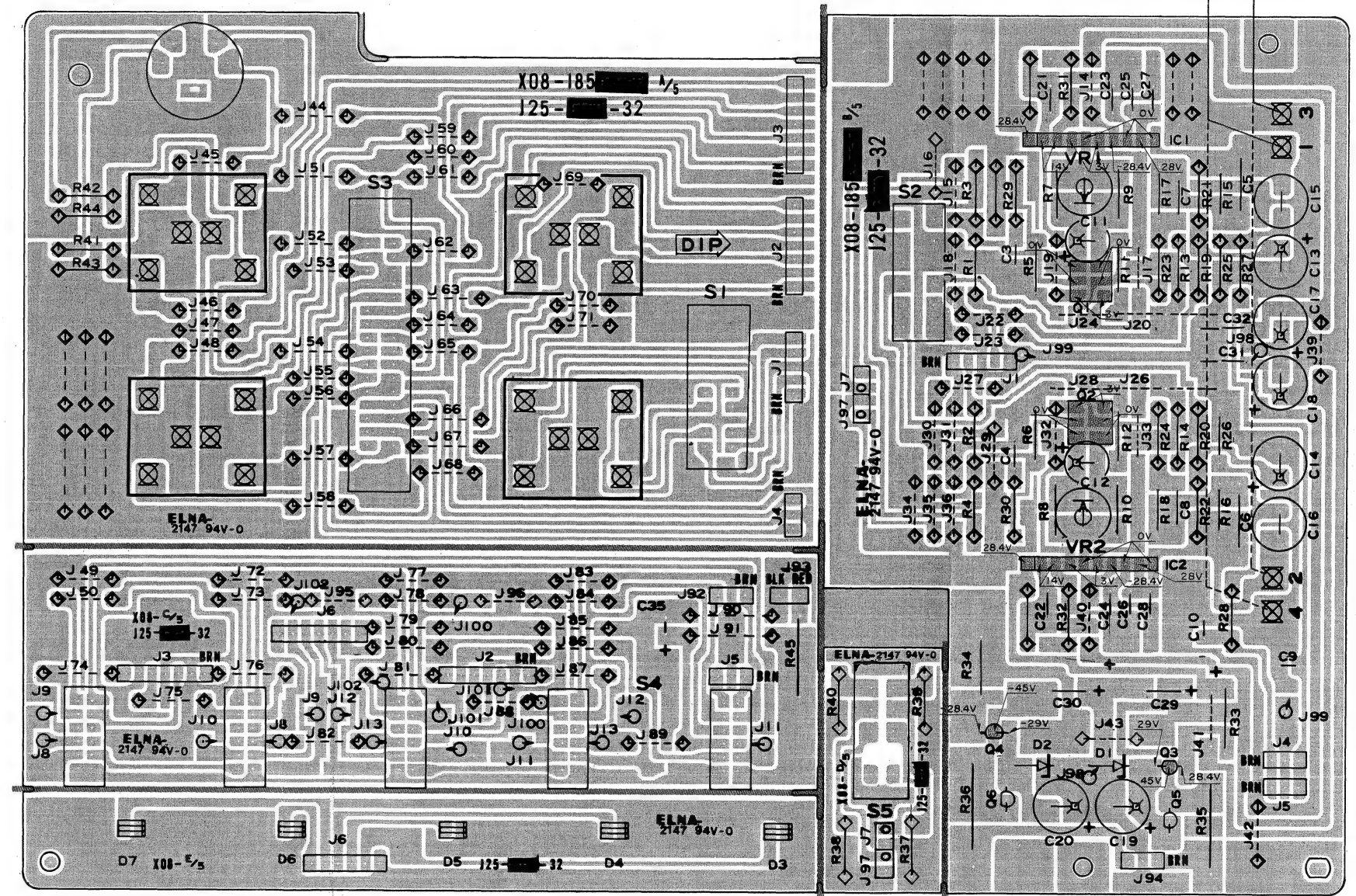
**SUB (X13-3020-10)**  
**Component Side View**



**POWER SUPPLY (X00-213\*-.\*\*)**  
**Component Side View**



**PRE AMP (X08-1850-10)**  
**Component Side View**

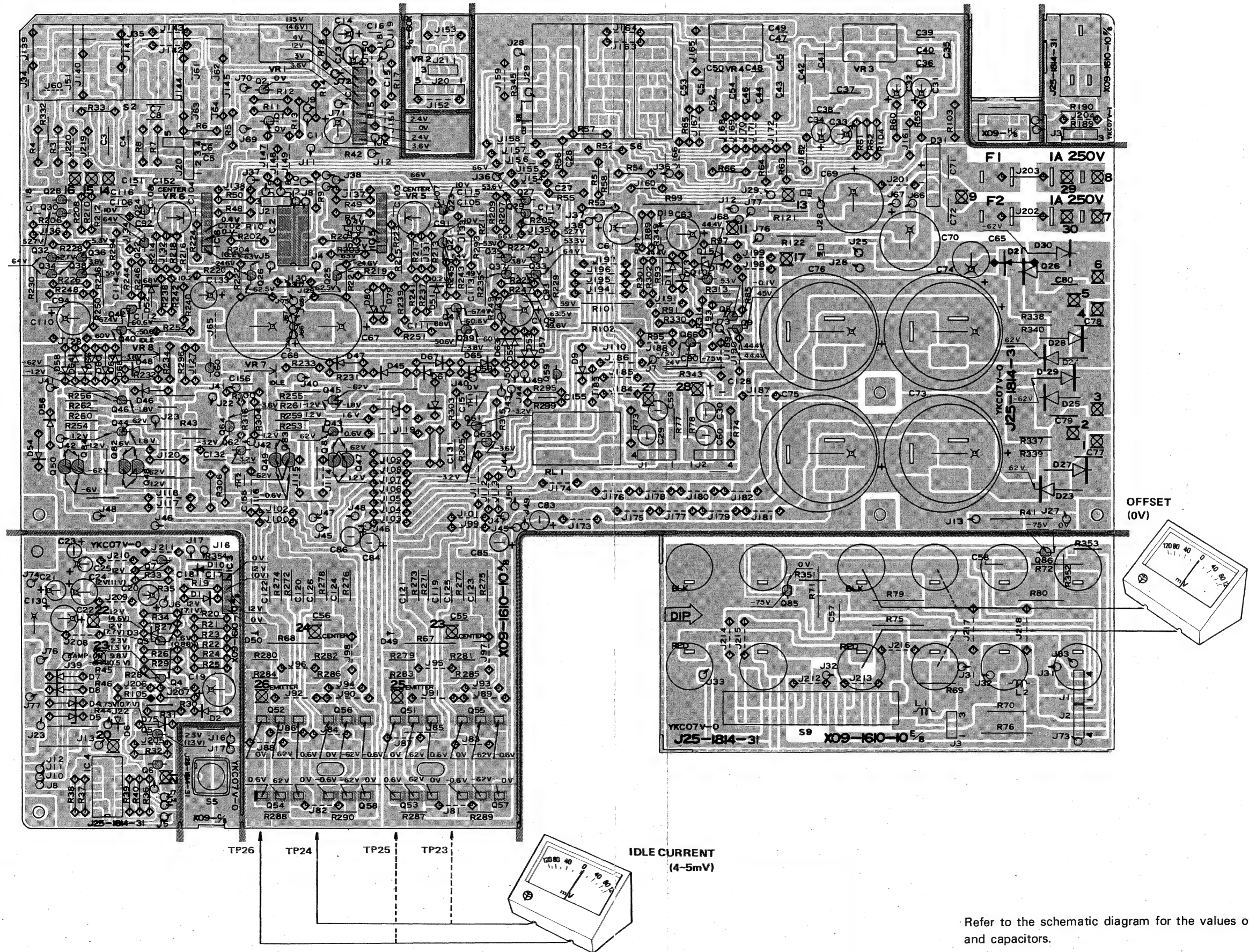


Refer to the schematic diagram for the values of resistors and capacitors.



KA-1000 KA-1000  
PC BOARD

AUDIO AMP (X09-1610-10)  
Component Side View



Refer to the schematic diagram for the values of resistors and capacitors.

## PARTS LIST

## INSTRUCTION FOR PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
②	18 1A	A01-0608-12	METALLIC CABINET
①	19 2A	A20-1979-11	FRONT PANEL ASSY
	19 2A	A20-1979-11	FRONT PANEL ASSY
	19 2A	A20-1979-11	FRONT PANEL ASSY
	19 2A	A20-1979-11	FRONT PANEL ASSY
⑤	R221	R43-1333-15	FL-PROOF RD330 J 2H
	R222	R43-1368-15	FL-PROOF RD680 J 2H
	VR1 ,2	R12-3301-05	TRIMMING POT. 20K(B)
	VR3 ,4	R19-4305-05	POTENTIOMETER (OUTPUT)
	VR5 ,6	R12-2302-05	TRIMMING POT. 5K(B)

- ① Exploded view drawing No.  
 ② Position in exploded view.  
 ③ Symbol of new parts.  
 ④ Area to which parts are shipped. Example: A20-1979-11 is the part No. of FRONT PANEL ASS'Y for the "K" type products (for U.S.A.). When this column is blank, it means that the same type of parts (same parts No.) are used for the products shipped to all areas.  
 ⑤ Reference No. in schematic diagram.  
 ⑥ Abbreviation of "Flame-proof carbon film resistor"
- All capacitors and resistors are listed using abbreviations.  
 Abbreviations.
- \* Abbreviations of capacitors (Parts No. with initial letter "C").  
 ELECTRO..... Electrolytic capacitor  
 LL-ELEC..... Low leak electrolytic capacitor  
 NP-ELEC..... Non-pole electrolytic capacitor  
 MICA..... Mica capacitor  
 POLYSTY..... Polystyrene capacitor  
 MYLAR..... Mylar capacitor  
 CERAMIC..... Ceramic capacitor  
 TANTAL..... Tantalum capacitor  
 MF..... Metallized film capacitor  
 MP..... Metallized paper capacitor  
 OIL..... Oil capacitor  
 The unit "UF" is used in lieu of "μF"
- \* Abbreviations of resistors (Parts No. with initial letters "R").  
 RC..... Carbon composition resistor  
 RD..... Carbon film resistor  
 FL-PROOF RD..... Flame-proof carbon film resistor  
 RW..... Wire wound power resistor  
 FL-PROOF RS..... Flame-proof metal oxide film resistor  
 RN..... Metal film resistor  
 FUSE-RESIST..... Resistor with fuse function  
 2B..... Rated wattage 1/8W  
 2E..... Rated wattage 1/4W  
 2H..... Rated wattage 1/2W  
 3A..... Rated wattage 1W  
 3D..... Rated wattage 2W  
 3F..... Rated wattage 3W  
 3G..... Rated wattage 4W  
 3H..... Rated wattage 5W  
 All resistor values are indicated with the unit (Ω) omitted.  
 \* Abbreviations common to capacitors and resistors.  
 C..... ±0.25pF (Used for capacitors only)  
 D..... ±0.5pF (Used for capacitors only)  
 F..... ±1%  
 G..... ±2%  
 J..... ±5%  
 K..... ±10%  
 M..... ±20%  
 Z..... +80%.-20%(Used for capacitors only)  
 P..... +100%.-0%(Used for capacitors only)  
 Resistors RD (carbon composition resistors) are not listed in the parts list. For values, refer to the schematic diagram.

CODES in:

X00-213\*\*\*

E: X00-2132-71

U: X00-2130-81

K: X00-2130-10

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
KA-1000 UNIT			
1 1C	-	METALLIC FRAME (D)	
2 2C	-	METALLIC FRAME (L)	
3 2C,3D	-	METALLIC FRAME (R)	
4 2D	-	METALLIC FRAME (C)	
5 3D	-	SUB PANEL	
6 1D	-	REAR PANEL	
8 1C	-	MOUNTING HARDWARE (PLUG)	
9 1C	-	MOUNTING HARDWARE (CONN)	
	041-0401-15	SIGMA CORD	
19 2C	A20-1728-02	FRONT PANEL	*K
19 2C	A20-1728-02	FRONT PANEL	PU
19 2C	A20-1728-02	FRONT PANEL	MH
19 2C	A20-1728-02	FRONT PANEL	UE
19 2C	A20-1728-02	FRONT PANEL	XE
19 2C	A20-1729-02	FRONT PANEL	*T
20 3C	A21-0329-12	DRESSING PANEL (A)	
21 3C	A21-0334-12	DRESSING PANEL (B) ASSY	*
22 1A	A40-0248-02	BOTTOM PLATE	
23 1A	A50-0084-12	SIDE PLATE (L)	
24 1B	A50-0085-12	SIDE PLATE (R)	
25 1B	A52-0038-02	TOP PLATE	
-	B46-0055-30	WARRANTY CARD	P
-	B46-0060-00	WARRANTY CARD	T
-	B46-0061-30	WARRANTY CARD	K
-	B46-0062-30	WARRANTY CARD	UH
-	B46-0062-30	WARRANTY CARD	UE
-	B46-0063-13	WARRANTY CARD	UH
-	B46-0063-13	WARRANTY CARD	UE
-	B46-0064-20	WARRANTY CARD	X
-	B50-3239-00	INSTRUCTION MANUAL	*K
-	B50-3240-00	INSTRUCTION MANUAL	*P
-	B50-3240-00	INSTRUCTION MANUAL	MX
-	B50-3241-00	INSTRUCTION MANUAL	*P
-	B50-3241-00	INSTRUCTION MANUAL	UM
-	B50-3241-00	INSTRUCTION MANUAL	HX
-	B50-3241-00	INSTRUCTION MANUAL	UE
-	B50-3242-00	INSTRUCTION MANUAL	*M
-	B50-3243-00	INSTRUCTION MANUAL	*E
-	B50-3262-00	INSTRUCTION MANUAL	*T
-	B59-0018-00	SERVICE STATIONS' LIST	UH
-	B59-0018-00	SERVICE STATIONS' LIST	UE
26 3C	B08-6013-14	FADER BUTTON	
27 3C	B10-0285-04	FRONT GLASS	
28 3C	B30-0262-05	LED	*
29 3C	B30-0270-05	LAMP (FADER) 8V,0.075A	
30 3C	D15-0073-14	PULLEY (SMALL)	
31 3D	D15-0179-03	PULLEY (LARGE)	
33 1D	E09-1603-05	RECTANGULAR PLUG	
35 1C	F01-0358-15	HEAT SINK ASSY	*
-	H01-3222-04	CARTON BOX	*U
-	H01-3222-04	CARTON BOX	MH
-	H01-3222-04	CARTON BOX	UE
-	H01-3222-04	CARTON BOX	X
-	H01-3224-04	CARTON BOX	*E
-	H01-3225-04	CARTON BOX	*T
-	H01-3254-04	CARTON BOX	*K
-	H10-1563-02	POLYSTYRENE FIXTURE	*

## PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名/規格	Re- marks 備考
-	H12-0081-04	PACKING FIXTURE	*
-	H20-0453-04	COVER	
-	H25-0078-04	BAG 235X315	UH
-	H25-0078-04	BAG 235X315	UE
37A 3C	J50-0098-03	HINGE (L)	
37B 3C	J50-0099-03	HINGE (R)	
38 3C	J50-0100-04	HINGE (A)	
39 3D	K27-0188-04	PUSH BTN(PHONO 1-2)	
40 3C	K27-0189-04	PUSH BTN(POWER)	
41 3C	K27-0190-14	PUSH BTN(INPUT SELECT)	
42 3D	K27-0191-03	PUSH BTN(CART MM-MC)	
43 2D	K27-0192-14	PUSH BTN(FILTER,ETC)	
44 3D	K29-0381-23	KNOB(PRESET LEVEL)	
45 3C	K29-0382-14	KNOB(SP,TONE,BAL,REC)	
47 1D	N08-0128-35	GND TERMINAL	
48 3C	N09-0100-14	SCREW (PULLEY)	
49 1A,1B	N09-0363-05	SCREW (SIDE PLATE)	
50 1D,2C	N09-0364-05	SCREW (POWER TR)	
51 3C	N14-0127-04	NUT (FRONT GLASS)	
52 2D	S40-2123-05	PUSH SWITCH (POWER)	
53 3D	S90-0039-05	REMOTE SW SHAFT	
54 3D	S90-0051-05	REMOTE WIRE	
56 3D	S90-0043-05	REMOTE ROT SW (REC OUT)	
Q51 -54	V03-2837-10	2SC2837(O,Y)	*
Q55 -58	V01-1186-10	2SA1186(O,Y)	*
57 2D,3D	X08-1850-10	PRE AMP PCB ASSY	
58 2D,3D	X09-1610-10	AUDIO AMP PCB ASSY	*
59 2D	X13-3020-10	SUB PCB ASSY	
KA-1000PS UNIT			
12 3B	-	MAIN CHASSIS	
13 3B	-	REAR PANEL	
14 3B	-	ESCUTCHEON	
15 2B	-	RECTANGULAR PLUG	
16 3B	-	MOUNTING HARDWARE (B)	
17 3B	-	MOUNTING HARDWARE (C)	
23 2A	A50-0084-02	SIDE PLATE (L)	
24 3B	A50-0085-02	SIDE PLATE (R)	
60 3A	A20-1722-02	FRONT PANEL	*K
60 3A	A20-1722-02	FRONT PANEL	PU
60 3A	A20-1722-02	FRONT PANEL	MH
60 3A	A20-1722-02	FRONT PANEL	UE
60 3A	A20-1722-02	FRONT PANEL	XE
60 3A	A20-1722-02	FRONT PANEL	*T
61 3A	A21-0347-04	DRESSING PANEL	*
62 2A	A52-0034-03	TOP PLATE	*
63 3A	B10-0284-04	FRONT GLASS	*
64 3A	B30-0258-05	LED	
-	C91-0023-05	CERAMIC 0.01UF AC250V	UM
-	C91-0023-05	CERAMIC 0.01UF AC250V	HX
-	C91-0023-05	CERAMIC 0.01UF AC250V	UE
-	C91-0079-05	CERAMIC 0.01UF AC125V	KP
32 3B	E03-0018-05	AC OUTLET	KP
32 3B	E03-0018-05	AC OUTLET	UM
32 3B	E03-0018-05	AC OUTLET	HX
32 3B	E03-0018-05	AC OUTLET	UE
65 3B	E30-0290-05	POWER CORD	KP
65 3B	E30-0291-25	POWER CORD	UM
65 3B	E30-0291-25	POWER CORD	H
65 3B	E30-0291-25	POWER CORD	UE

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名/規格	Re- marks 備考
65 3B	E30-0580-05	POWER CORD	E
65 3B	E30-0587-05	POWER CORD	T
65 3B	E30-0649-05	POWER CORD	X
66 2B	E30-0617-05	CONNECTOR CORD	
-	H01-3226-04	CARTON BOX	*
-	H10-1564-02	POLYSTYRENE FIXTURE	*
-	H25-0122-04	BAG	
-	H25-0182-14	BAG	
36 3B	J42-0083-05	BUSHING	KP
36 3B	J42-0083-05	BUSHING	TE
36 3B	J42-0085-05	BUSHING	UM
36 3B	J42-0085-05	BUSHING	HX
36 3B	J42-0085-05	BUSHING	UE
67 3A,3B	J02-0112-04	FOOT X4	*
69 2A,2B	L01-2161-05	POWER TRANSFORMER	*K
69 2A,2B	L01-2161-05	POWER TRANSFORMER	P
69 2A,2B	L01-2162-05	POWER TRANSFORMER	*T
69 2A,2B	L01-2165-05	POWER TRANSFORMER	*U
69 2A,2B	L01-2165-05	POWER TRANSFORMER	MH
69 2A,2B	L01-2165-05	POWER TRANSFORMER	UE
69 2A,2B	L01-2165-05	POWER TRANSFORMER	X
69 2A,2B	L01-2166-05	POWER TRANSFORMER	*E
70 3A	L01-2171-05	POWER TRANSFORMER	*K
70 3A	L01-2171-05	POWER TRANSFORMER	P
70 3A	L01-2174-05	POWER TRANSFORMER	UM
70 3A	L01-2174-05	POWER TRANSFORMER	HX
70 3A	L01-2174-05	POWER TRANSFORMER	UE
70 3A	L01-2177-05	POWER TRANSFORMER	*T
70 3A	L01-2177-05	POWER TRANSFORMER	E
49 2A,3B	N09-0363-05	SCREW (SIDE PLATE)	
51 3A	N14-0127-04	NUT (FRONT GLASS)	
71 2A,2B	S31-2050-05	SLIDE SW (VOLTAGE SEL)	UM
71 2A,2B	S31-2050-05	SLIDE SW (VOLTAGE SEL)	HX
71 2A,2B	S31-2050-05	SLIDE SW (VOLTAGE SEL)	UE
71 2A,2B	S31-2050-05	SLIDE SW (VOLTAGE SEL)	E
73 2A,2B	X00-2130-10	POWER SUPPLY PCB ASSY	*K
73 2A,2B	X00-2130-10	POWER SUPPLY PCB ASSY	P
73 2A,2B	X00-2130-81	POWER SUPPLY PCB ASSY	*U
73 2A,2B	X00-2130-81	POWER SUPPLY PCB ASSY	MH
73 2A,2B	X00-2130-81	POWER SUPPLY PCB ASSY	UE
73 2A,2B	X00-2130-81	POWER SUPPLY PCB ASSY	X
73 2A,2B	X00-2132-71	POWER SUPPLY PCB ASSY	*T
73 2A,2B	X00-2132-71	POWER SUPPLY PCB ASSY	E
POWER SUPPLY(X00-213*-**)			
C1 ,2	C91-0079-05	CERAMIC 0.01UF AC125V	E
C2	C91-0023-05	CERAMIC 0.01UF AC250V	U
C4	C54-2710-39	CERAMIC 0.01UF P	
C5	C24-1247-71	ELECTRO 470UF 16WV	
F3	F05-5015-05	FUSE F0.5A 250V	E
F4 ,5	F05-5021-05	FUSE 5A 250V	K
F4 ,5	F05-5022-05	FUSE 5A 250V	U
F4 ,5	F05-5024-05	FUSE F5A 250V	E
F6	F05-1021-05	FUSE 1A 250V	K
F6	F05-1023-05	FUSE 1A 250V	U
F6	F06-1021-05	FUSE 1A 250V	E
F7 ,8	F05-5021-05	FUSE 5A 250V	K
F7 ,8	F05-5022-05	FUSE 5A 250V	U
F7 ,8	F05-5024-05	FUSE F5A 250V	E
F9	F05-1021-05	FUSE 1A 250V	K
F9	F05-1023-05	FUSE 1A 250V	U



## PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
F9	F06-1021-05	FUSE F1A 250V	E
101 2B	J13-0054-05	FUSE HOLDER	E
101 2B	J13-0055-05	FUSE HOLDER	KU
R2	R47-5427-05	FL-PROOF RS27 J 3A	UE
RL1	S51-1027-05	RELAY	UE
RL1 2	S51-1028-05	RELAY	K
D1 -5	V11-0295-05	W06B	
<b>PRE AMP (X08-1850-10)</b>			
D3 -7	B30-0258-05	LED	
C1 2	C52-1756-16	CERAMIC 560PF K	
C3 4	C71-1712-16	CERAMIC 120PF J	
C5 6	C49-2051-34	MYLAR 0.051UF G	
C7 8	C49-2015-35	MYLAR 0.015UF J	
C9 10	C48-1710-25	POLYSTY 1000PF J	
C11 12	C90-0402-05	ELECTRO 100UF 10WV	
C13 14	C90-0532-05	ELECTRO 470UF 10WV	
C15 16	C90-0404-05	NP-ELEC 10UF 35WV	
C17 20	C24-6510-71	ELECTRO 100UF 35WV	
C21 22	C91-0100-05	POLYSTY 1000PF J	
C23 26	C71-1733-05	CERAMIC 33PF 50WV	
C27 28	C71-1705-01	CERAMIC 5PF C	
C29 30	C24-1847-71	ELECTRO 470UF 63WV	
C31 32	C49-2010-34	MYLAR 0.01UF G	
C33 34	C55-1710-38	CERAMIC 0.01UF Z	
C35	C24-1047-69	ELECTRO 47UF 10WV	
201 10	E06-0510-05	DIN CONNECTOR	
202 10	E13-0429-05	PHONO JACK	
R11 12	R48-2107-03	RN 107 F 2E	
R13 14	R48-6282-95	RN 8,2 J 2E	
R15 16	R48-2619-23	RN 61,9K F 2E	
R17 18	R48-2511-13	RN 5,11K F 2E	
R23 24	R48-6233-05	RN 33 J 2E	
R33 34	R43-1247-95	FL-PROOF RD4,7 J 2E	
R35 36	R47-5533-15	FL-PROOF RS330 J 3D	
R45	R47-5456-25	FL-PROOF RS5,6K J 3A	
VR1 2	R12-0502-05	TRIMMING POT. (100KB)	
S1	S90-0045-05	SLIDE SW. (PHONO 1-2)	*
S2	S40-4033-05	PUSH SW. (MM-MC)	
S3	S90-0038-05	SLIDE SW. (REC-OUT)	
S4	S42-5020-05	PUSH SW. (INPUT SEL)	
S5	S31-2059-05	SLIDE SW. (PHONO IMP)	
D1 2	V11-4109-20	WZ-290	
IC1 2	V30-0520-10	TA2010A	*
Q1 2	V09-0153-10	2SK240(BL,V)	*
Q3	V03-2167-10	2SC2167(Y,G)	
Q4	V01-0957-10	2SA957(Y,G)	
Q5 6	V09-0127-50	2SK105(H)	
<b>AUDIO AMP (X09-1610-10)</b>			
C3 4	C46-1718-46	MYLAR 0.18UF K	
C5 6	C71-1722-15	CERAMIC 220PF J	
C7 8	C46-1727-35	MYLAR 0.027UF J	
C11	C24-1010-79	ELECTRO 100UF 10WV	
C13 14	C25-1722-47	LL-ELEC 0.22UF 50WV	
C15 16	C52-1756-16	CERAMIC 560PF K	
C17	C71-1756-06	CERAMIC 56PF J	
C18	C71-1710-02	CERAMIC 10PF D	
C19 20	C25-1222-67	LL-ELEC 22UF 16WV	

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
C21 22	C25-1210-77	LL-ELEC 100UF 16WV	
C23	C25-1210-67	LL-ELEC 10UF 16WV	
C24	C24-0847-79	ELECTRO 470UF 6,3WV	
C25	C25-1210-67	LL-ELEC 10UF 16WV	
C27 28	C71-1708-02	CERAMIC 8PF D	
C29 30	C26-1722-57	NP-ELEC 2.2UF 50WV	
C31 32	C25-1722-57	LL-ELEC 2.2UF 50WV	
C33 34	C25-1222-67	LL-ELEC 22UF 16WV	
C35 36	C46-1733-35	MYLAR 0.033UF K	
C37 38	C46-1715-46	MYLAR 0.15UF K	
C39 40	C46-1733-35	MYLAR 0.033UF K	
C41 42	C46-1715-46	MYLAR 0.15UF K	
C43 46	C46-1712-35	MYLAR 0.012UF J	
C47 48	C71-1733-16	CERAMIC 330PF K	
C49 50	C46-1712-26	MYLAR 0.0012UF K	
C51 54	C46-1756-35	MYLAR 0.056UF J	
C55 58	C46-1747-35	MYLAR 0.047UF J	
C59 60	C26-1722-57	NP-ELEC 2.2UF 50WV	
C61	C24-0822-79	ELECTRO 220UF 6,3WV	
C63	C24-1410-71	ELECTRO 100UF 25WV	
C65	C24-2033-67	ELECTRO 33UF 100WV	
C67 68	C24-2033-77	ELECTRO 330UF 100WV	
C69 70	C24-2047-77	ELECTRO 470UF 100WV	
C71 72	C54-2710-39	CERAMIC 0.01UF P	
C73 76	C90-0493-05	ELECTRO 10000UF 63WV	
C77 80	C54-2710-39	CERAMIC 0.01UF P	
C83 86	C24-1822-51	ELECTRO 2.2UF 63WV	
C90	C52-1715-26	CERAMIC 0.0015UF K	
C91 92	C46-1710-35	MYLAR 0.01UF J	
C93 94	C71-1708-02	CERAMIC 8PF D	
C101,102	C71-1710-15	CERAMIC 100PF J	
C105,106	C52-1782-16	CERAMIC 820PF K	
C107,108	C71-1702-01	CERAMIC 2PF C	
C109,110	C24-1047-69	ELECTRO 47UF 10WV	
C111,112	C46-1733-35	MYLAR 0.033UF K	
C113,114	C71-1739-06	CERAMIC 39PF J	
C115,116	C55-1722-38	CERAMIC 0.022UF Z	
C119-126	C46-1722-35	MYLAR 0.022UF J	
C128	C25-1710-67	ELECTRO 10UF 50WV	
C130	C24-1747-61	ELECTRO 47UF 50WV	
C133	C24-0810-79	ELECTRO 100UF 6,3WV	
C151	C25-1747-47	LL-ELEC 0.47UF 50WV	
C152	C46-1710-45	MYLAR 0.1UF J	
C153,154	C71-1706-02	CERAMIC 6PF D	
C155,156	C71-1722-15	CERAMIC 220PF J	
C157,158	C52-1715-26	CERAMIC 0.0015UF K	
301 20	E11-0081-05	PHONE JACK	
302 10	E20-0814-05	SPEAKER TERMINAL	
L1 2	L39-0085-05	COIL	
-	N10-2030-46	HEXAGON NUT (M3)	
R16	R47-5518-25	FL-PROOF RS1,8K J 3D	
R41	R47-5522-15	FL-PROOF RS220 J 3D	
R42 43	R47-5510-25	FL-PROOF RS1K J 3D	
R44 46	R47-5433-25	FL-PROOF RS3,3K J 3A	
R67 68	R47-5547-95	FL-PROOF RS4,7 J 3D	
R69 70	R47-5410-05	FL-PROOF RS10 J 3A	
R71 72	R47-5547-95	FL-PROOF RS4,7 J 3D	
R75 76	R47-5556-15	FL-PROOF RS560 J 3D	
R77 78	R43-1233-95	FL-PROOF RD3,3 J 2E	
R79 80	R47-5410-05	FL-PROOF RS10 J 3A	

## PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
R81 R99 R101,102 R113-116 R121	R47-5456-15 R47-5518-25 R47-5512-15 R43-1247-05 R47-5547-15	FL-PROOF RS560 J 3A FL-PROOF RS1,8K J 3D FL-PROOF RS120 J 3D FL-PROOF RD47 J 2E FL-PROOF RS470 J 3D	
R122 R229,230 R235,236 R253-256 R259-262	R47-5582-15 R43-1216-15 R47-5482-25 R43-1256-15 R43-1282-05	FL-PROOF RS820 J 3D FL-PROOF RD160 J 2E FL-PROOF RS8,2K J 3A FL-PROOF RD560 J 2E FL-PROOF RD82 J 2E	
R271-278 R279-290 R307 R337-340 R343	R43-1282-95 R92-0203-05 R47-5418-35 R43-1282-25 R47-5510-25	FL-PROOF RD8,2 J 2E FIXED RESISTOR FL-PROOF RS18K J 3A FL-PROOF RD8,2K J 2E FL-PROOF RS1K J 3D	
R345 VR1 VR2 VR3,4 VR5,6  VR7,8	R47-5456-25 R06-5062-05 R06-5063-05 R06-4051-05 R12-0502-05  R12-0077-05	FL-PROOF RS5,6K J 3A POTENTIOMETER (BAL) POTENTIOMETER (VOL) POTENTIOMETER (TONE) TRIMMING POT. 100  TRIMMING POT. 100	
303 2D RL1 S2 S5 S6	S90-0046-05 S51-2045-05 S42-4015-05 S40-1012-05 S42-3047-05	REMOTE ROT SW (SP SEL) RELAY PUSH SW. (FIL,MODE,LOUD) PUSH SW. (FADER) PUSH SW. (TURN OVER)	
S9	S90-0047-05	SLIDE SW. (SP SELECTOR)	
D1 -3 D4 D5 D6 D7,8	V11-0273-05 V11-4100-40 V11-4172-26 V11-4100-40 V11-4172-26	1S2076A WZ-120 WZ-032 WZ-120 WZ-032	
D9 D10 D11 D13 D15	V11-0273-05 V11-0271-05 V11-0273-05 V11-0273-05 V11-0273-05	1S2076A 1S2076 1S2076A 1S2076A 1S2076A	
D17 D19 D21 D23 -30 D31	V11-0287-05 V11-0273-05 V11-0295-05 V11-0465-05 V11-5100-60	WZ-240 1S2076A W06B GP25D RB-151	
D45,46 D47,48 D49,50 D51,52 D53 -56	V11-5100-80 V11-0271-05 V21-0013-05 V11-0271-05 V11-0273-05	STV-2H(W) 1S2076 STV-3H(Y) 1S2076 1S2076A	
D57 -68 D75 D79 D80 D81	V11-0271-05 V11-0273-05 V11-4103-60 V11-0271-05 V11-0271-05	1S2076 1S2076A X2-051 1S2076 1S2076	
IC1 IC2 IC3 IC4 IC5,6	V30-0514-10 V30-0516-10 V30-0515-10 V30-0526-10 V09-0145-30	AN5733 MB84066B DN819 MB84069B UPA68H(L,M)	
Q1,2 Q3,4 Q5	V09-0144-40 V01-0999-10 V03-2320-00	2SK163(N) 2SA999(E,F) 2SC2320	

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
Q6 Q7	V02-0724-20 V01-0999-10	2SB724(P,O) 2SA999(E,F)	
Q8 Q9 Q10 Q21 -26 Q27 -30	V03-2320-00 V01-0999-10 V01-0954-00 V03-2320-00 V03-0098-05	2SC2320 2SA999(F,E) 2SA954 2SC2320 2SC535	
Q31 -34 Q31 -34 Q35 -38 Q35 -38 Q39,40	V01-0999-10 V01-1127-30 V01-0912-30 V01-0992-10 V03-1885-20	2SA999(E,F) 2SA1127NC 2SA912(R) 2SA992(F,E) 2SC1885(R)	
Q41,42 Q43,44 Q45,46 Q47,48 Q49,50	V03-2320-00 V03-2631-10 V01-1123-10 V03-2275-10 V01-0985-10	2SC2320 2SC2631(Q,R,S) 2SA1123(Q,R,S) 2SC2275A(R,Q,P) 2SA985A(R,Q,P)	
Q59,60 Q61,62 Q63,64 Q66 Q81,82	V01-0992-10 V01-0198-05 V03-1775-00 V03-1845-10 V03-2275-10	2SA992(F,E) 2SA872 2SC1775 2SC1845(F,E) 2SC2275A(R,Q,P)	
Q83,84 Q85,86 TH1,2	V01-0985-10 V01-0992-10 V22-0027-05	2SA985A(R,Q,P) 2SA992(F,E) 5TP-41L	
SUB (X13-3020-10)			
C1,2 C3,4	C52-1747-26 C25-1447-57	CERAMIC 0,0047UF K LL-ELEC 4,7UF 25WV	
R7,8	R47-5522-15	FL-PROOF RS220 J 3D	
Q1,2	V01-0992-00	2SA992	

## Semiconductor Substitutions

Name	Substitutions
PRE AMP (X08-1850-10)	
TA2010A	TA2010
2SA957 (Y, G)	2SB724 (O)
2SC2167	2SD762 (O)
2SK105 (H)	2SK163 (L), 2SK136 (Q), 2SK117 (GR)
AUDIO AMP (X09-1610-10)	
MB84066B	μPD4066C
MB84069B	μPD4069C
2SA985A (R,Q,P)	2SA1111 (Q, R)
2SA1123 (Q,R,S)	2SA912 (Q, R, S)
2SC535	2SC1674 (L, K), 2SC1923
2SC2275A (R,Q,P)	2SC2591 (Q, R)
2SC2320	2SC945
2SC2631 (Q,R,S)	2SC1885 (Q, R, S)
2SK163 (N)	2SK105 (H)
1S2076	1S1555
GP25D	U05C (S)



## PARTS LIST

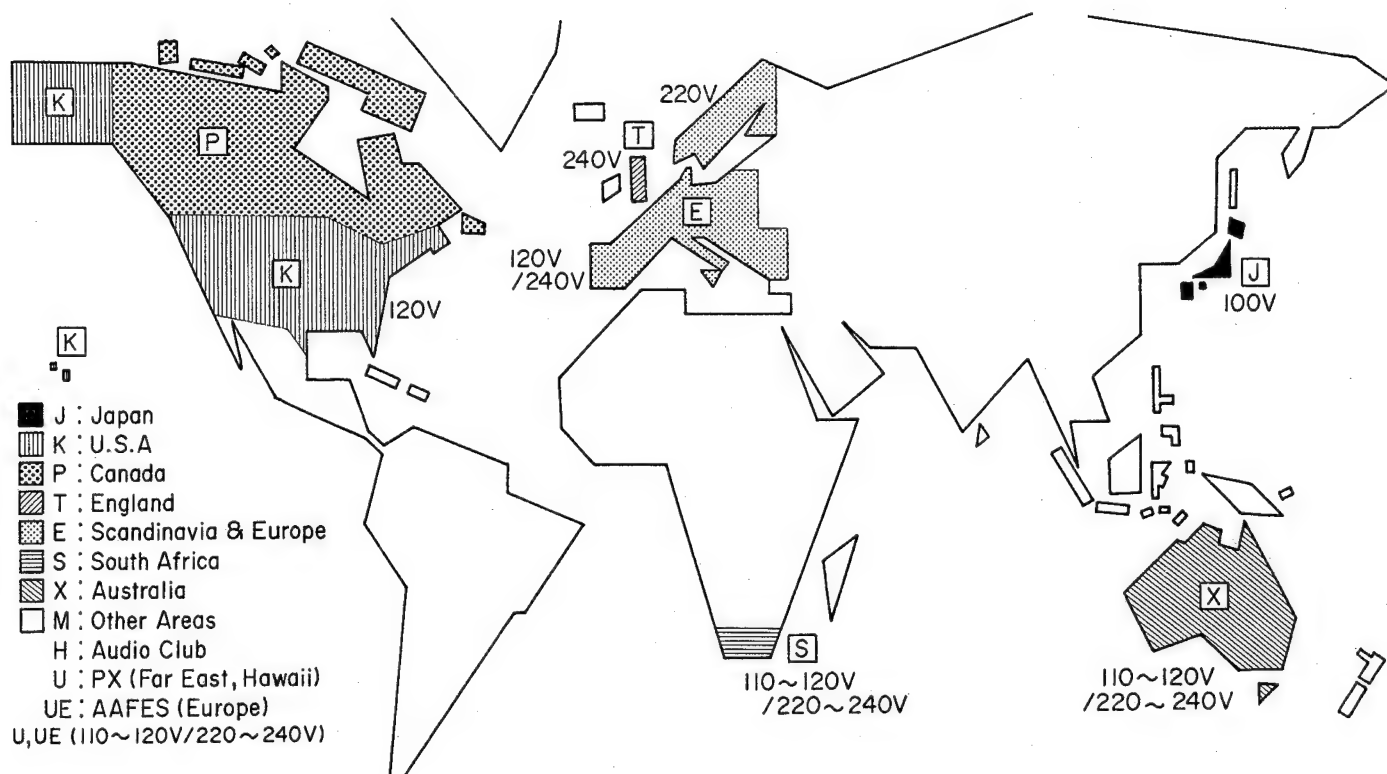
Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
R81 R99 R101,102 R113-116 R121	R47-5456-15 R47-5518-25 R47-5512-15 R43-1247-05 R47-5547-15	FL-PROOF RS560 J 3A FL-PROOF RS1,8K J 3D FL-PROOF RS120 J 3D FL-PROOF RD47 J 2E FL-PROOF RS470 J 3D	
R122 R229,230 R235,236 R253-256 R259-262	R47-5582-15 R43-1216-15 R47-5482-25 R43-1256-15 R43-1282-05	FL-PROOF RS820 J 3D FL-PROOF RD160 J 2E FL-PROOF RS8,2K J 3A FL-PROOF RD560 J 2E FL-PROOF RD82 J 2E	
R271-278 R279-290 R307 R337-340 R343	R43-1282-95 R92-0203-05 R47-5418-35 R43-1282-25 R47-5510-25	FL-PROOF RD8,2 J 2E FIXED RESISTOR FL-PROOF RS18K J 3A FL-PROOF RD8,2K J 2E FL-PROOF RS1K J 3D	
R345 VR1 VR2 VR3 ,4 VR5 ,6 VR7 ,8	R47-5456-25 R06-5062-05 R06-5063-05 R06-4051-05 R12-0502-05 R12-0077-05	FL-PROOF RS5,6K J 3A POTENTIOMETER (BAL) POTENTIOMETER (VOL) POTENTIOMETER (TONE) TRIMMING POT. 100 TRIMMING POT. 100	
303 20 RL1 S2 S5 S6	S90-0046-05 S51-2045-05 S42-4015-05 S40-1012-05 S42-3047-05	REMOTE ROT SW (SP SEL) RELAY PUSH SW.(FIL,MODE,LOUD) PUSH SW.(FADER) PUSH SW.(TURN OVER)	
S9	S90-0047-05	SLIDE SW.(SP SELECTOR)	
D1 -3 D4 D5 D6 D7 ,8	V11-0273-05 V11-4100-40 V11-4172-26 V11-4100-40 V11-4172-26	1S2076A WZ-120 WZ-032 WZ-120 WZ-032	
D9 D10 D11 D13 D15	V11-0273-05 V11-0271-05 V11-0273-05 V11-0273-05 V11-0273-05	1S2076A 1S2076 1S2076A 1S2076A 1S2076A	
D17 D19 D21 D23 -30 D31	V11-0287-05 V11-0273-05 V11-0295-05 V11-0465-05 V11-5100-60	WZ-240 1S2076A W06B GP25D RB-151	
D45 ,46 D47 ,48 D49 ,50 D51 ,52 D53 -56	V11-5100-80 V11-0271-05 V21-0013-05 V11-0271-05 V11-0273-05	STV-2H(W) 1S2076 STV-3H(Y) 1S2076 1S2076A	
D57 -68 D75 D79 D80 D81	V11-0271-05 V11-0273-05 V11-4103-60 V11-0271-05 V11-0271-05	1S2076 1S2076A XZ-051 1S2076 1S2076	
IC1 IC2 IC3 IC4 IC5 ,6	V30-0514-10 V30-0516-10 V30-0515-10 V30-0526-10 V09-0145-30	AN5733 MB84066B DN819 MB84069B UPA68H(L,M)	
Q1 ,2 Q3 ,4 Q5	V09-0144-40 V01-0999-10 V03-2320-00	2SK163(N) 2SA999(E,F) 2SC2320	

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
Q6 Q7	V02-0724-20 V01-0999-10	2SB724(P,O) 2SA999(E,F)	
Q8 Q9 Q10 Q21 -26 Q27 -30	V03-2320-00 V01-0999-10 V01-0954-00 V03-2320-00 V03-0098-05	2SC2320 2SA999(F,E) 2SA954 2SC2320 2SC535	
Q31 -34 Q31 -34 Q35 -38 Q35 -38 Q39 ,40	V01-0999-10 V01-1127-30 V01-0912-30 V01-0992-10 V03-1885-20	2SA999(E,F) 2SA1127NC 2SA912(R) 2SA992(F,E) 2SC1885(R)	
Q41 ,42 Q43 ,44 Q45 ,46 Q47 ,48 Q49 ,50	V03-2320-00 V03-2631-10 V01-1123-10 V03-2275-10 V01-0985-10	2SC2320 2SC2631(Q,R,S) 2SA1123(Q,R,S) 2SC2275A(R,Q,P) 2SA985A(R,Q,P)	
Q59 ,60 Q61 ,62 Q63 ,64 Q66 Q81 ,82	V01-0992-10 V01-0198-05 V03-1775-00 V03-1845-10 V03-2275-10	2SA992(F,E) 2SA872 2SC1775 2SC1845(F,E) 2SC2275A(R,Q,P)	
Q83 ,84 Q85 ,86 TH1 ,2	V01-0985-10 V01-0992-10 V22-0027-05	2SA985A(R,Q,P) 2SA992(F,E) 5TP-41L	
SUB (X13-3020-10)			
C1 ,2 C3 ,4	C52-1747-26 C25-1447-57	CERAMIC 0.0047UF K LL-ELEC 4,7UF 25WV	
R7 ,8 Q1 ,2	R47-5522-15 V01-0992-00	FL-PROOF RS220 J 3D 2SA992	

## Semiconductor Substitutions

Name	Substitutions
PRE AMP (X08-1850-10)	
TA2010A	TA2010
2SA957 (Y, G)	2SB724 (O)
2SC2167	2SD762 (O)
2SK105 (H)	2SK163 (L), 2SK136 (Q), 2SK117 (GR)
AUDIO AMP (X09-1610-10)	
MB84066B	μPD4066C
MB84069B	μPD4069C
2SA985A (R,Q,P)	2SA1111 (Q, R)
2SA1123 (Q,R,S)	2SA912 (Q, R, S)
2SC535	2SC1674 (L, K), 2SC1923
2SC2275A (R,Q,P)	2SC2591 (Q, R)
2SC2320	2SC945
2SC2631 (Q,R,S)	2SC1885 (Q, R, S)
2SK163 (N)	2SK105 (H)
1S2076	1S1555
GP25D	U05C (S)

## WORLD MAP & AREA CODE



### Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list. There are no plan for producing units of S type.

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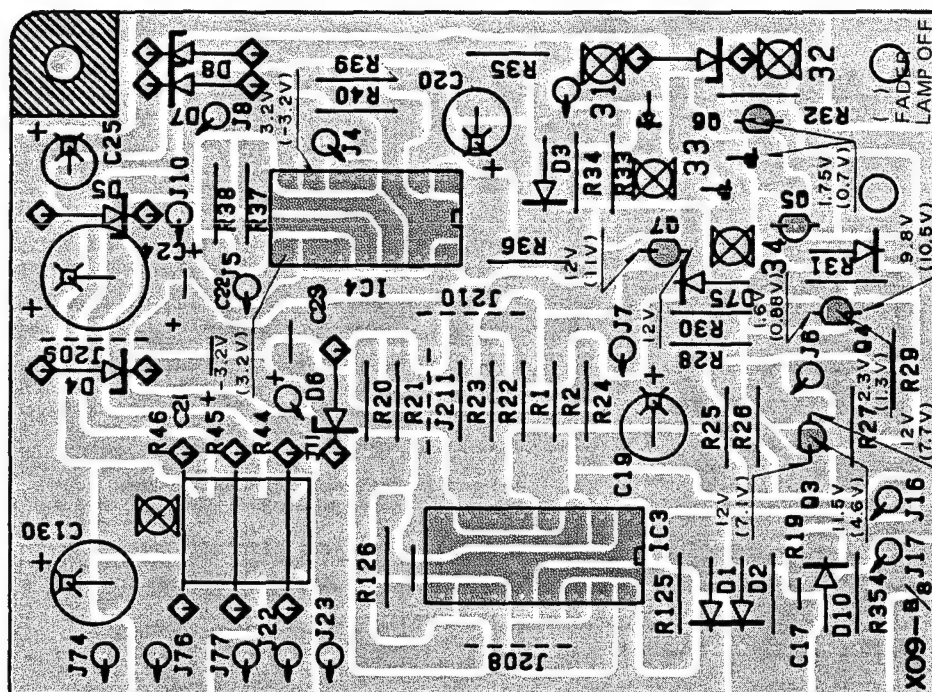
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## PC BOARD/PARTS LIST



Ref. No. 参照番号	Parts No. 部品番号	Description 部品名/規格	Re- marks 備考
KA-1000 Refer to Parts List of Service Manual for other parts.			
Q51 -54	V03-2837-10	2SC2837(O,Y)	
Q55 -58	V01-1186-10	2SA1186(O,Y)	
KA-1000PS Refer to Parts List of Service Manual for other parts.			
-	C91-0023-05	CERAMIC 0.01UF AC250V	UM
-	C91-0023-05	CERAMIC 0.01UF AC250V	HX
-	C91-0023-05	CERAMIC 0.01UF AC250V	UE
-	C91-0079-05	CERAMIC 0.01UF AC125V	KP
POWER SUPPLY (X00-213*-**)			
C1 -3	C91-0079-05	CERAMIC 0.01UF AC125V	KE
C2	C91-0023-05	CERAMIC 0.01UF AC250V	U
C4	C54-2710-39	CERAMIC 0.01UF P	
C5	C24-1247-77	ELECTRO 470UF 16WV	
F3	F05-5015-05	FUSE	E
F4 ,5	F05-5021-05	FUSE	K
F4 ,5	F05-5022-05	FUSE	U
F4 ,5	F05-5024-05	FUSE	E
F6	F05-1021-05	FUSE	E
F6	F05-1023-05	FUSE	U
F6	F06-1021-05	FUSE	K
F7 ,8	F05-5021-05	FUSE	K
F7 ,8	F05-5022-05	FUSE	U
F7 ,8	F05-5024-05	FUSE	E
101 2B	J13-0054-05	FUSE HOLDER	E
101 2B	J13-0055-05	FUSE HOLDER	
R2	R47-1427-05	FL-PROOF RS27 J 3A	UE
RL1	S51-1027-05	RELAY	UE
RL1 ,2	S51-1028-05	RELAY	K
D1 -5	V11-0295-05	W06B	

Codes for X00-213\*-\*\*

K: X00-2130-10

U: X00-2130-81

E: X00-2132-71

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名/規格	Re- marks 備考
PRE AMP (X08-185*-**)			
D3 -7	B30-0258-05	LAMP	
C3 ,4	C71-1712-16	CERAMIC 120PF J	
C5 ,6	C49-2051-34	MYLAR 0.051UF G	
C7 ,8	C49-2015-34	MYLAR 0.015UF J	
C9 ,10	C48-1710-25	POLYSTY 1000PF J	
C11 ,12	C90-0402-05	ELECTRO 100UF 6.3WV	
C13 ,14	C90-0532-05	ELECTRO 470UF 10WV	
C15 ,16	C90-0404-05	NP-ELEC 10UF 35WV	
C17 -20	C24-6510-71	ELECTRO 100UF 35WV	
C21 ,22	C91-0100-05	POLYSTY 1000PF J	
C23 ,24	C71-1710-15	CERAMIC 100PF J	
C25 ,26	C71-1733-06	CERAMIC 33PF K	
C27 ,28	C71-1705-01	CERAMIC 5PF C	
C29 ,30	C24-1847-77	ELECTRO 470UF 63WV	
C31 ,32	C49-2010-35	MYLAR 0.01UF J	
C35	C24-1047-69	ELECTRO 47UF 10WV	
C37 ,38	C71-1718-16	CERAMIC 180PF K	E
C39 ,40	C71-1712-16	CERAMIC 120PF J	E
C41 ,42	C52-1722-26	CERAMIC 0.0022UF K	E
C43 -46	C71-1768-06	CERAMIC 68PF K	E
201 1D	E06-0510-05	DIN CONNECTOR	
202 1D	E13-0429-05	PHONO JACK	
L1 ,2	L40-1511-43	INDUCTOR	E
R11 ,12	R12-0502-05	TRIMMING POT. 100KB	
R13 ,14	R48-2107-03	RN 107 F 2E	
R15 ,16	R48-6282-95	RN 8.2 J 2E	
R17 ,18	R48-2619-23	RN 61.9K F 2E	
	R48-2511-13	RN 5.11K F 2E	

Codes for X08-185\*-\*\*

E: X08-1852-71

## PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
R23 ,24 R33 ,34 R35 ,36 R45	R48-6233-05 R43-1247-95 R47-5533-15 R47-5482-25	RN 33 J 2E FL-PROOF RD4,7 J 2E FL-PROOF RS330 J 3D FL-PROOF RS8,2K J 3A	
S1 S2 S3 S4 S5	S90-0045-05 S40-4033-15 S90-0038-05 S42-5020-05 S31-2059-05	SLIDE SWITCH(PHONO 1-2) PUSH SWITCH(MM-MC) SLIDE SWITCH(REC-OUT) PUSH SWITCH(OUTPUT SEL) SLIDE SWITCH(PHONO IMP)	
D1 ,2 IC1 ,2 Q1 ,2 Q3 Q4	V11-4109-20 V30-0520-10 V09-0153-10 V03-2167-10 V01-0957-10	WZ-290 TA2010A OR TA2010 2SK240(BL,V) 2SC2167 OR 2SD762(O) 2SA957 OR 2SB724(O)	
Q5 ,6	V09-0126-20 V09-0127-50 V09-0144-60	2SK117(GR) OR 2SK105(H) OR 2SK163(L)	

## AUDIO AMP (X09-161\*~\*\*)

C1 ,2 C3 ,4 C5 ,6 C7 ,8 C11	C71-1710-15 C46-1718-46 C71-1722-15 C46-1727-35 C24-1010-79	CERAMIC 100PF J MYLAR 0.18UF K CERAMIC 220PF J MYLAR 0.027UF J ELECTRO 100UF 10WV	
C13 ,14 C15 ,16 C17 C18 C19 ,20	C25-1722-47 C52-1756-16 C71-1747-05 C71-1733-16 C25-1722-67	LL-ELEC 0.22UF 50WV CERAMIC 560PF K CERAMIC 47PF J CERAMIC 330PF K LL-ELEC 22UF 16WV	
C21 ,22 C23 C24 C25 C27 ,28	C24-1210-79 C24-1210-69 C24-0847-77 C24-1210-69 C71-1708-02	ELECTRO 100UF 16WV ELECTRO 10UF 16WV ELECTRO 470UF 6.3WV ELECTRO 10UF 16WV CERAMIC 8PF D	
C29 ,30 C31 ,32 C33 ,34 C35 ,36 C37 ,38	C26-1722-57 C24-1722-57 C24-1222-67 C46-1733-35 C46-1715-46	NP-ELEC 2.2UF 50WV ELECTRO 2.2UF 50WV ELECTRO 22UF 16WV MYLAR 0.033UF J MYLAR 0.15UF K	
C39 ,40 C41 ,42 C43 ,46 C47 ,48 C49 ,50	C46-1733-35 C46-1715-46 C46-1712-35 C71-1733-16 C46-1712-26	MYLAR 0.033UF J MYLAR 0.15UF K MYLAR 0.012UF J CERAMIC 330PF K MYLAR 0.0012UF K	
C51 ,54 C55 ,58 C59 ,60 C61 C63	C46-1756-35 C46-1747-35 C26-1722-57 C24-0822-79 C24-1410-79	MYLAR 0.056UF J MYLAR 0.047UF J NP-ELEC 2.2UF 50WV ELECTRO 220UF 6.3WV ELECTRO 100UF 25WV	
C65 C67 ,68 C69 ,70 C71 ,72 C73 ,76	C24-2033-67 C24-2033-77 C24-2047-77 C54-2710-39 C90-0493-05	ELECTRO 33UF 100WV ELECTRO 330UF 100WV ELECTRO 470UF 100WV CERAMIC 0.01UF P ELECTRO 10000UF 63WV	
C77 ,80 C83 ,86 C90 C91 ,92 C93 ,94	C54-2710-39 C24-1822-51 C46-1768-25 C46-1710-35 C71-1708-02	CERAMIC 0.01UF P ELECTRO 2.2UF 63WV MYLAR 0.0068UF J MYLAR 0.01UF J CERAMIC 8PF D	
C101,102 C105,106 C107,108 C109,110 C111,112	C71-1710-15 C52-1782-16 C71-1702-01 C24-1047-69 C46-1733-35	CERAMIC 100PF J CERAMIC 820PF K CERAMIC 2PF C ELECTRO 47UF 10WV MYLAR 0.033UF J	

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
C113,114 C115,116 C119-126 C128 C130	C71-1739-06 C55-1722-38 C46-1722-35 C24-1710-67 C24-1747-67	CERAMIC 39PF K CERAMIC 0.022UF Z MYLAR 0.022UF J ELECTRO 10UF 50WV ELECTRO 47UF 50WV	
C131,132 C133 C135,136 C137,138 C139,140	C71-1722-05 C24-0810-79 C46-1727-25 C52-1715-26 C71-1747-16	CERAMIC 22PF J ELECTRO 100UF 6.3WV MYLAR 0.0027UF J CERAMIC 0.0015UF K CERAMIC 470PF K	
C141,142 C151 C152 C157,158 C159	C71-1747-06 C24-1747-41 C46-1710-45 C52-1715-26 C26-1747-47	CERAMIC 47PF K ELECTRO 0.47UF 50WV MYLAR 0.1UF J CERAMIC 0.0015UF K LL-ELEC 0.47UF 50WV	
301 2D 302 1D	E11-0081-05 E20-0814-05	PHONE JACK SPEAKER TERMINAL	
L1 ,2	L39-0085-05	COIL	
-	N10-2030-46	HEXAGON NUT(M3)	
R41 R42 ,43 R44 ,46 R67 ,68 R69 ,70	R47-5522-15 R47-5510-25 R47-5433-25 R47-5547-95 R47-5410-05	FL-PROOF RS220 J 3D FL-PROOF RS1K J 3D FL-PROOF RS3,3K J 3A FL-PROOF RS4,7 J 3D FL-PROOF RS10 J 3A	
R71 ,72 R75 ,76 R77 ,78 R79 ,80 R81	R47-5547-95 R47-5556-15 R43-1233-95 R47-5433-95 R47-5456-15	FL-PROOF RS4,7 J 3D FL-PROOF RS560 J 3D FL-PROOF RS3,3 J 2E FL-PROOF RS3,3 J 3A FL-PROOF RS560 J 3A	
R99 R101,102 R102 R121,124 R122	R47-5518-25 R47-5447-05 R47-5412-15 R47-5510-25 R47-5582-15	FL-PROOF RS1,8K J 3D FL-PROOF RS47 J 3A FL-PROOF RS120 J 3A FL-PROOF RS1K J 3D FL-PROOF RS820 J 3D	
R137,138 R189,190 R229,230 R231,232 R233,234	R43-1322-25 R47-5456-15 R43-1216-15 R43-1256-05 R43-1218-15	FL-PROOF RD2,2K J 2H FL-PROOF RS560 J 3A FL-PROOF RD160 J 2E FL-PROOF RD56 J 2E FL-PROOF RD180 J 2E	KE K K
R235,236 R237-242 R253-256 R259-262 R271-278	R47-5482-25 R43-1212-15 R43-1256-15 R43-1282-05 R43-1282-95	FL-PROOF RS8,2K J 3A FL-PROOF RD120 J 2E FL-PROOF RD560 J 2E FL-PROOF RD82 J 2E FL-PROOF RD8,2 J 2E	K
R279-290 R307 R337-340 R343 R345	R92-0203-05 R47-5418-35 R43-1282-25 R47-5510-25 R47-5456-25	METAL PLATE 0.47 5W FL-PROOF RS18K J 3A FL-PROOF RD8,2K J 2E FL-PROOF RS1K J 3D FL-PROOF RS5,6K J 3A	
VR1 VR2 VR3 ,4 VR5 ,6 VR7 ,8	R06-5062-05 R06-5063-05 R06-4051-05 R12-0502-05 R12-0077-05	POTENTIOMETER (BALANCE) POTENTIOMETER (VOLUME) POTENTIOMETER (TONE) TRIMMING POT. 100 TRIMMING POT. 100	
- RL1 S2 S5 S6	S90-0046-05 S51-2045-05 S42-4015-15 S40-1012-05 S42-3047-15	REMOTE SWITCH SHAFT RELAY PUSH SW.(FIL,MODE,LOUD) PUSH SWITCH (FADER) PUSH SWITCH (TURN OVER)	
S9	S90-0047-05	SLIDE SW.(SP SELECTOR)	

Codes for X09-161\*~\*\*

K: X09-1610-10

U: X09-1610-81

E: X09-1612-71

## PARTS LIST

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
D1 -3	V11-0273-05	1S2076A	
D4	V11-4100-40	WZ-120	
D5	V11-4172-26	WZ-032	
D6	V11-4100-40	WZ-120	
D7 ,8	V11-4172-26	WZ-032	
D9	V11-0273-05	1S2076A	
D10	V11-0076-05	1S1555	OR
	V11-0271-05	1S2076	
D11	V11-0273-05	1S2076A	
D13	V11-0273-05	1S2076A	
D14	V11-0247-05	WZ-100	
D15	V11-0273-05	1S2076A	
D17	V11-0287-05	WZ-240	
D18	V11-4103-80	WZ-157	UE
	V11-4111-50	XZ-076	K
D19	V11-0273-05	1S2076A	K
D20	V11-4111-50	XZ-076	
D21	V11-0295-05	W068	
D23 -30	V11-0465-05	GP25D	OR
	V11-2100-10	U05C(S)	
D31	V11-5100-60	RB-151	
D45 ,46	V11-5100-80	STV-2H(W)	
D47 ,48	V11-0076-05	1S1555	OR
	V11-0271-05	1S2076	
D49 ,50	V21-0013-05	STV-3H(Y)	
D51 ,52	V11-0076-05	1S1555	OR
	V11-0271-05	1S2076	
D53 -56	V11-0273-05	1S2076A	
D57 -68	V11-0076-05	1S1555	OR
	V11-0271-05	1S2076	
D73 -75	V11-0273-05	1S2076A	
D77 ,78	V11-4111-40	WZ-350	
D79	V11-4103-60	XZ-051	
D80	V11-0076-05	1S1555	OR
	V11-0271-05	1S2076	
IC1	V30-0514-10	ANS733	
IC2	V30-0516-10	MB84066B	OR UPD4066BC
IC3	V30-1050-06	TC4027BP	
IC4	V30-0526-10	MB84069B	OR UPD4069UBC
IC5 ,6	V09-0145-30	UPA68H(L,M)	
Q1 ,2	V09-0127-50	2SK105(H)	OR
	V09-0144-40	2SK163(N)	
Q3 ,4	V01-0733-50	2SA733(A)	OR
	V01-0999-10	2SA999	
Q5	V03-0945-51	2SC945(A)	OR
	V03-2320-00	2SC2320	
Q6	V03-2167-10	2SC2167	
	V04-0313-30	2SD313V-AL	OR
Q7	V01-0999-10	2SA999	
Q8	V03-0945-51	2SC945(A)	OR
	V03-2320-00	2SC2320	
Q9	V01-0999-10	2SA999	
Q10	V01-0954-00	2SA954	
Q21 -24	V03-1845-10	2SC1845(F,E)	
Q25 ,26	V03-0945-51	2SC945(A)	OR
	V03-2320-00	2SC2320	
Q27 -30	V03-0098-05	2SC535	OR
	V03-0444-05	2SC1674(L,K)	OR
	V03-1923-00	2SC1923	
Q31 -34	V01-0999-10	2SA999	OR
	V01-1127-30	2SA1127NC	

Ref. No. 参照番号	Parts No. 部品番号	Description 部品名 / 規格	Re- marks 備考
Q35 -38	V01-0912-30	2SA912	OR
	V01-1124-10	2SA1124	
Q39 ,40	V03-1885-20	2SC1885	OR
	V03-2632-10	2SC2632	
Q41 ,42	V03-0945-51	2SC945(A)	OR
	V03-2320-00	2SC2320	
Q43 ,44	V03-2631-10	2SC2631(Q,R,S)	
Q45 ,46	V01-1123-10	2SA1123(Q,R,S)	
Q47 ,48	V03-2275-20	2SC2275A	OR
	V03-2591-10	2SC2591(Q,R)	
Q49 ,50	V01-092.-10	2SA985A	OR
	V01-1111-10	2SA1111(Q,R)	
Q59 ,60	V01-0992-10	2SA992(F,E)	
Q61 ,62	V01-0198-05	2SA872	
Q63 ,64	V03-1775-00	2SC1775	
Q66	V03-1845-10	2SC1845(F,E)	
Q81 ,82	V03-2275-20	2SC2275A	OR
	V03-2591-10	2SC2591(Q,R)	
Q83 ,84	V01-0985-10	2SA985A	OR
	V01-1111-10	2SA1111(Q,R)	
Q85 ,86	V01-0992-10	2SA992(F,E)	
TH1 ,2	V22-0027-05	5TP-41L	U
SUB (X13-3020-10)			
C1 ,2	C52-1747-26	CERAMIC 0.0047UF K	
C3 ,4	C24-1447-57	ELECTRO 4.7UF 25WV	
R7 ,8	R47-5522-15	FL-PROOF RS220 J 3D	
Q1 ,2	V01-0992-00	2SA992	

A product of  
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**TRIO-KENWOOD AG**

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**KENWOOD & LEE ELECTRONICS, LTD.**

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2SA872 2SC535 AN5733  
 2SA912 2SC945  
 2SA954 2SC1674  
 2SA992 2SC1775  
 2SA999 2SC1845  
 2SA1123 2SC1885  
 2SA1127NC 2SC1923  
 2SC2320  
 2SC2631 MB84066B  
 MB84069B  
 μPD4066C  
 μPD4069C

2SA957  
 2SC2167

2SA985A 2SC2275A  
 2SA1111 2SC2591  
 2SB724 2SD762

2SA1186  
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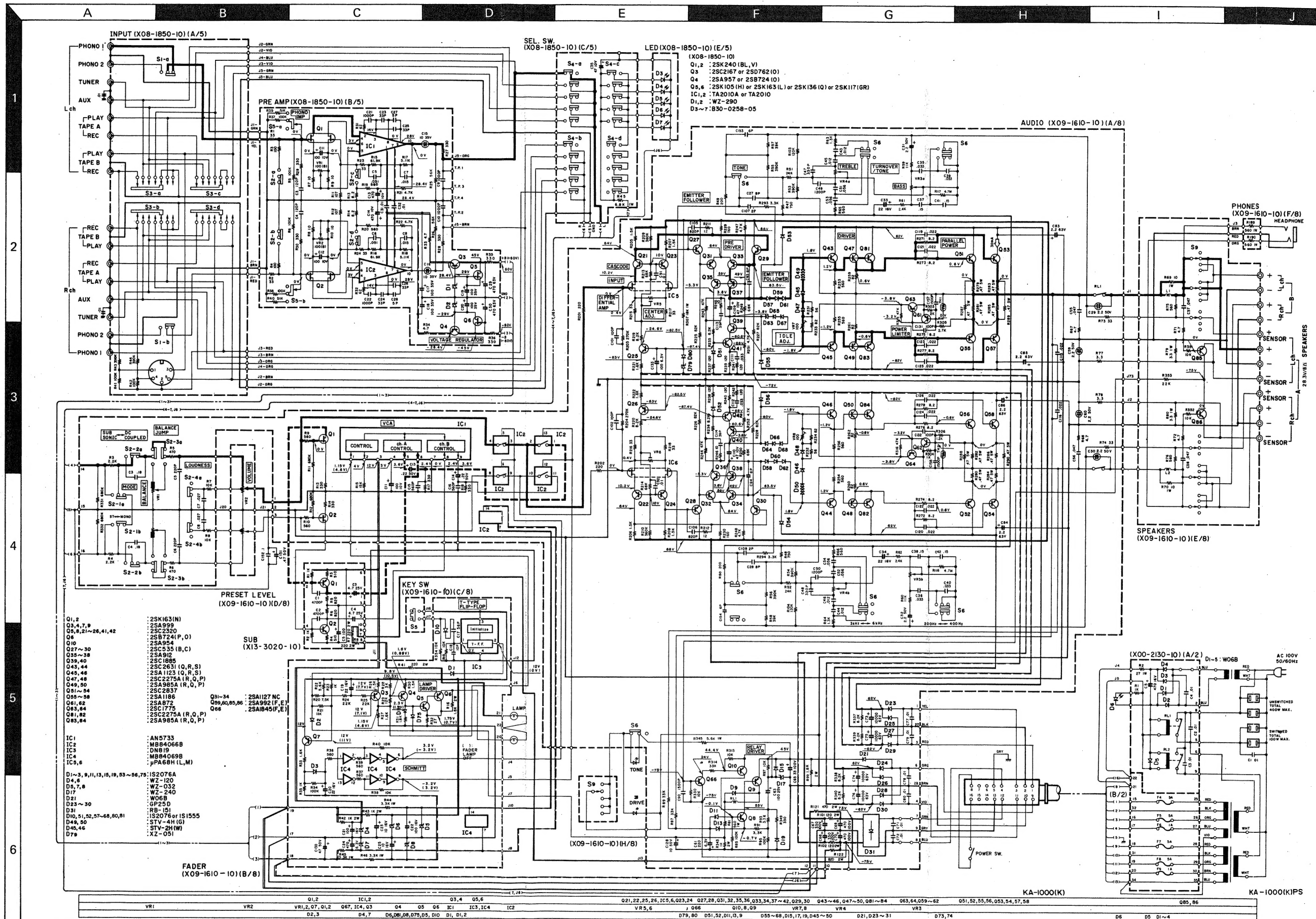
2SK105 2SK163  
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 TA2010A

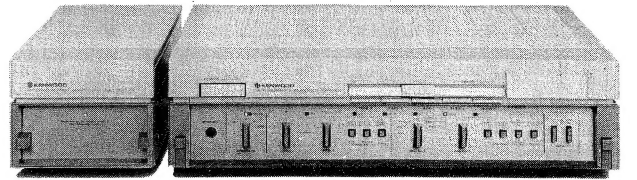
DN819





NEW SEPARATE AMPLIFIER

KA-1000



SPECIFICATIONS

**POWER OUTPUT**  
100 watts\* per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.005% total harmonic distortion.

- Both Channels Driven.....115 + 115 watts 8 ohms at 1,000 Hz
- Total Harmonic Distortion (20 Hz to 20,000 Hz)  
AUX input to SPEAKER output.....0.005% at rated power into 8 ohms  
0.005% at 1/2 rated power into 8 ohms
- PHONO input to SPEAKER output.....0.007% at rated power with VOLUME - 20 dB  
0.005% at rated power into 8 ohms
- Intermodulation Distortion .....0.007% at rated power into 8 ohms (60 Hz: 7 kHz = 4:1)
- Damping Factor.....600, at 100 Hz into 8 ohms
- Transient Response  
Rise Time.....0.9  $\mu$ s  
Slew Rate..... $\pm 120$  V/ $\mu$ s
- Frequency Response  
(DC COUPLED at ON).....DC to 400 kHz, + 0 dB, - 3 dB  
(DC COUPLED at OFF).....18 Hz to 400 kHz, + 0 dB, - 3 dB
- Speaker Impedance.....Accept 4 ohms to 16 ohms
- Input Sensitivity/Impedance  
Phono (MM).....2.5 mV/33 k ohms, 47 k ohms and 100 k ohms  
Phono (MC).....0.2 mV/100 ohms  
Tuner, AUX, Tape A, B.....150 mV/47 k ohms
- Signal-to-Noise Ratio (IHF, A)  
Phono (MM).....87 dB for 2.5 mV input  
93 dB for 5.0 mV input  
99 dB for 10 mV input  
Phono (MC).....67 dB for 0.2 mV input  
73 dB for 0.4 mV input  
Tuner, AUX, Tape A, B.....105 dB for 150 mV input
- Maximum Input Level  
Phono (MM).....270 mV (RMS), T.H.D. 0.003% at 1,000 Hz  
Phono (MC).....15 mV (RMS), T.H.D. 0.003% at 1,000 Hz
- Output Level/Impedance  
Tape REC (Pin).....150 mV/330 ohms  
(DIN).....30 mV/80 k ohms
- Phono Frequency Response.....RIAA standard curve  $\pm 0.2$  dB (20 Hz to 20,000 Hz)
- Loudness Control.....+ 10 dB at 100 Hz (at - 30 dB VOLUME Level)
- Tone Control  
Bass 200 Hz..... $\pm 10$  dB, at 50 Hz  
400 Hz..... $\pm 10$  dB, at 100 Hz  
Treble 3 kHz..... $\pm 10$  dB, at 10 kHz  
6 kHz..... $\pm 10$  dB, at 20 kHz
- Subsonic Filter  
(DC COUPLED at OFF).....18 Hz, 6 dB/oct

**GENERAL**

Power Consumption.....5.7 (UL/CSA) 800 watts (IEC)

AC Outlets.....Switched 2, Unswitched 2

Dimensions	Amplifier (KA-1000)	Power Supply (KA-1000-PS)
W	440 mm (17-5/16")	140 mm (14-1/2")
H	123 mm (4-7/32")	123 mm (4-7/32")
D	375 mm (14-3/4")	358 mm (14-3/32")

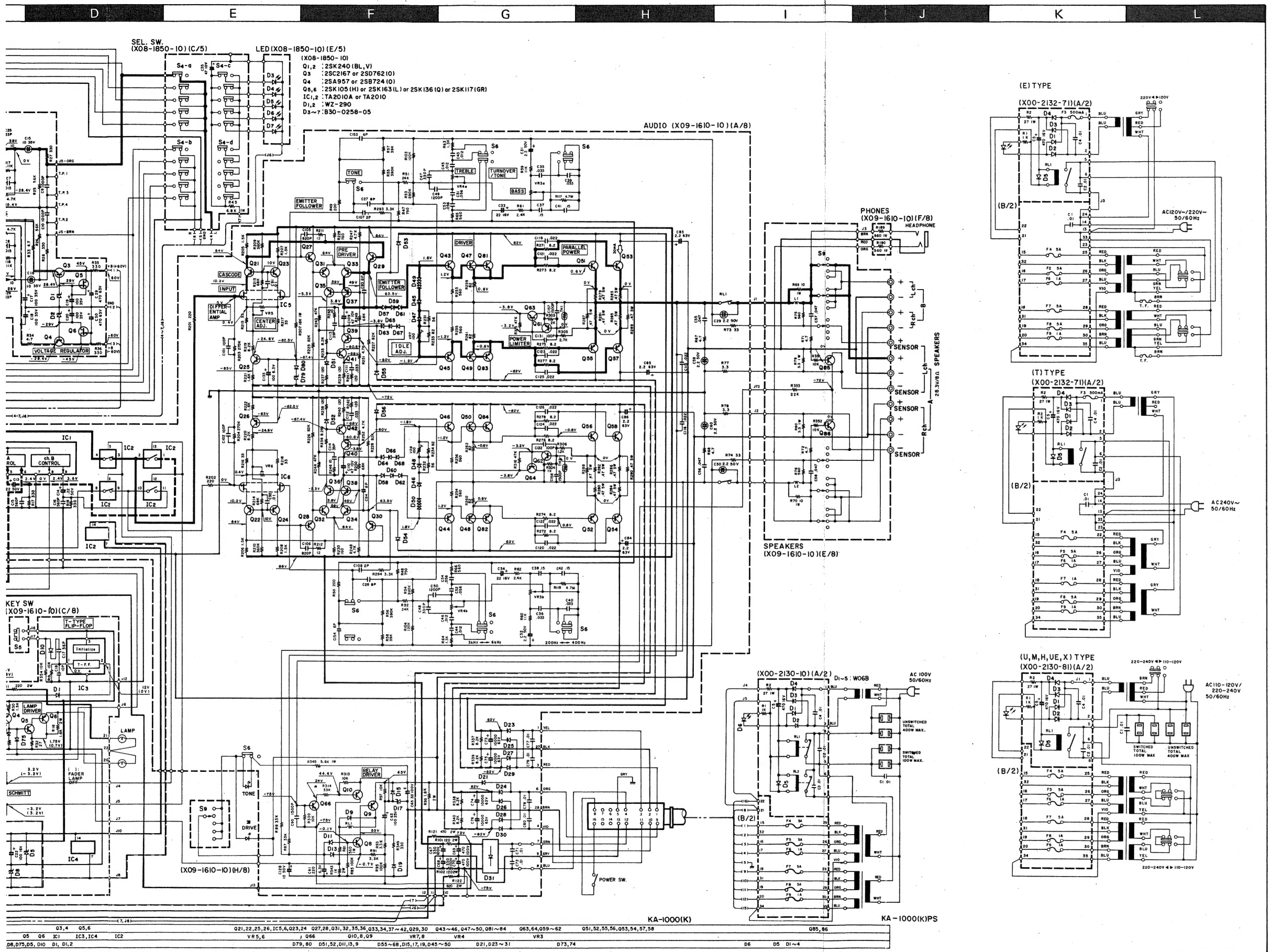
Net Weight  
14.4 kg (31.7 lb)\* 8.0 kg (17.6 lb)

\* Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier in U.S.A.

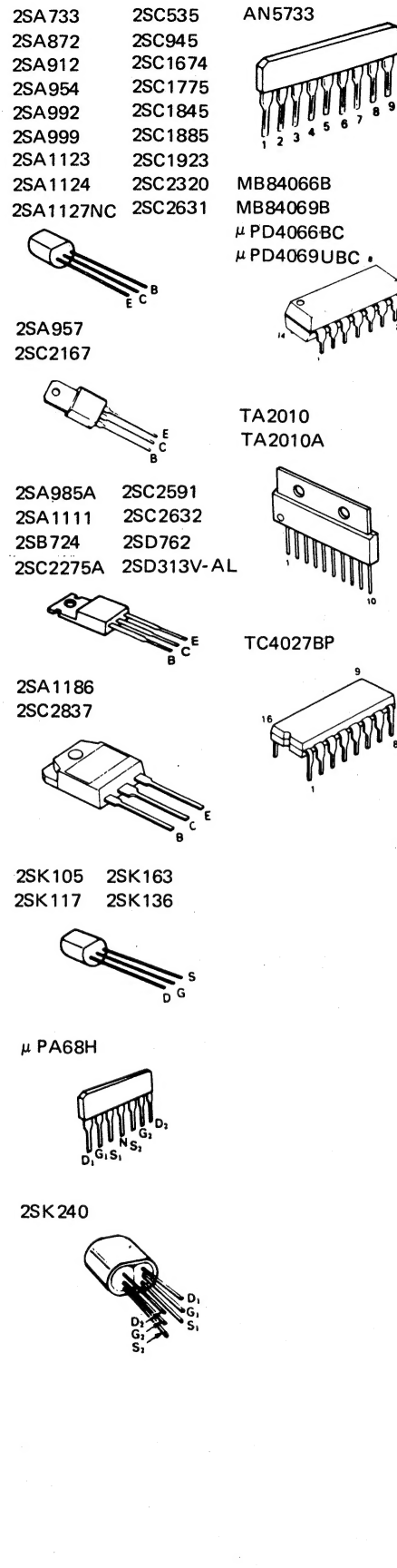
Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

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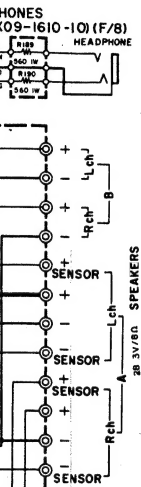
Kenwood strebt ständige Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.



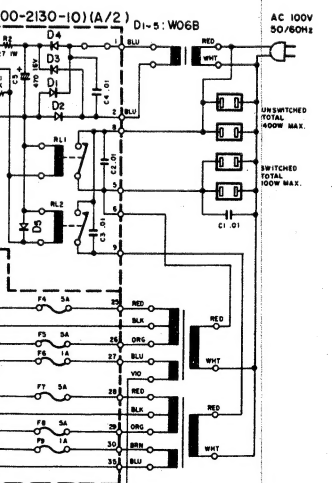
DC voltages are measured by a VOM with 25 k $\Omega$ /V input impedance.



Parts	X09-1610-10 K	X09-1610-81 U
D20	Yes	No
D77, 78	Yes	120
R135, 136	47	No
R137, 138	2.2K	No
R231, 232	56	No
R304	2K	1K
R305	3.6K	2.7K
R306	3.3K	1.2K
C1, 2	No	No
C131	No	22P
C157, 158	No	1500P



SPEAKERS (X09-1610-10)(E/8)



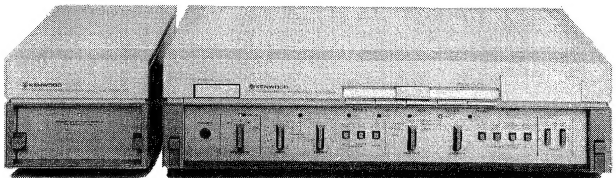
KA-1000(K,U)



NEW SEPARATE AMPLIFIER

KA-1000

REVISED EDITION



SPECIFICATIONS

**POWER OUTPUT**  
100 watts\* per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.005% total harmonic distortion.

Both Channels Driven ..... 115 + 115 watts 8 ohms at 1,000 Hz  
Total Harmonic Distortion (20 Hz to 20,000 Hz)  
AUX input to SPEAKER output ..... 0.005% at rated power into 8 ohms  
0.005% at 1/2 rated power into 8 ohms  
PHONO input to SPEAKER output ..... 0.007% at rated power with VOLUME - 20 dB  
0.005% at rated power into 8 ohms

Intermodulation Distortion ..... 0.005% at rated power into 8 ohms (60 Hz: 7 kHz = 4:1)  
Damping Factor ..... 600, at 100 Hz into 8 ohms  
Transient Response  
Rise Time ..... 0.9  $\mu$ s  
Slew Rate .....  $\pm 120$  V/ $\mu$ s

Frequency Response  
(DC COUPLED at ON) ..... DC to 400 kHz, +0 dB, -3 dB  
(DC COUPLED at OFF) ..... 18 Hz to 400 kHz, +0 dB, -3 dB

Speaker Impedance ..... Accept 4 ohms to 16 ohms  
Input Sensitivity/Impedance  
Phono (MM) ..... 2.5 mV/33 k ohms, 47 k ohms and 100 k ohms  
Phono (MC) ..... 0.2 mV/100 ohms  
Tuner, AUX, Tape A, B ..... 150 mV/47 k ohms

Signal-to-Noise Ratio (IHF, A)  
Phono (MM) ..... 87 dB for 2.5 mV input  
93 dB for 5.0 mV input  
99 dB for 10 mV input  
Phono (MC) ..... 67 dB for 0.2 mV input  
73 dB for 0.4 mV input  
Tuner, AUX, Tape A, B ..... 105 dB for 150 mV input

Maximum Input Level  
Phono (MM) ..... 270 mV (RMS), T.H.D. 0.003% at 1,000 Hz  
Phono (MC) ..... 15 mV (RMS), T.H.D. 0.003% at 1,000 Hz

Output Level/Impedance  
Tape REC (Pin) ..... 150 mV/330 ohms  
(DIN) ..... 30 mV/80 k ohms  
Phono Frequency Response ..... RIAA standard curve  $\pm 0.2$  dB (20 Hz to 20,000 Hz)  
Loudness Control ..... +10 dB at 100 Hz (at -30 dB VOLUME Level)

Tone Control  
Bass 200 Hz .....  $\pm 10$  dB, at 50 Hz  
400 Hz .....  $\pm 10$  dB, at 100 Hz  
Treble 3 kHz .....  $\pm 10$  dB, at 10 kHz  
6 kHz .....  $\pm 10$  dB, at 20 kHz

Subsonic Filter  
(DC COUPLED at OFF) ..... 18 Hz, 6 dB/oct

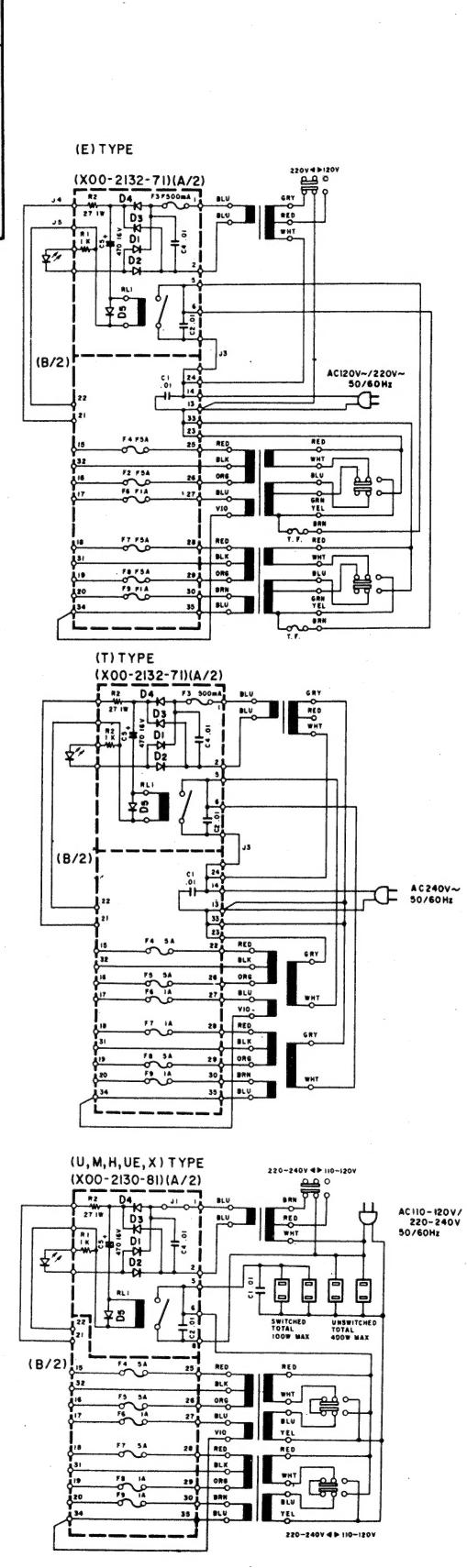
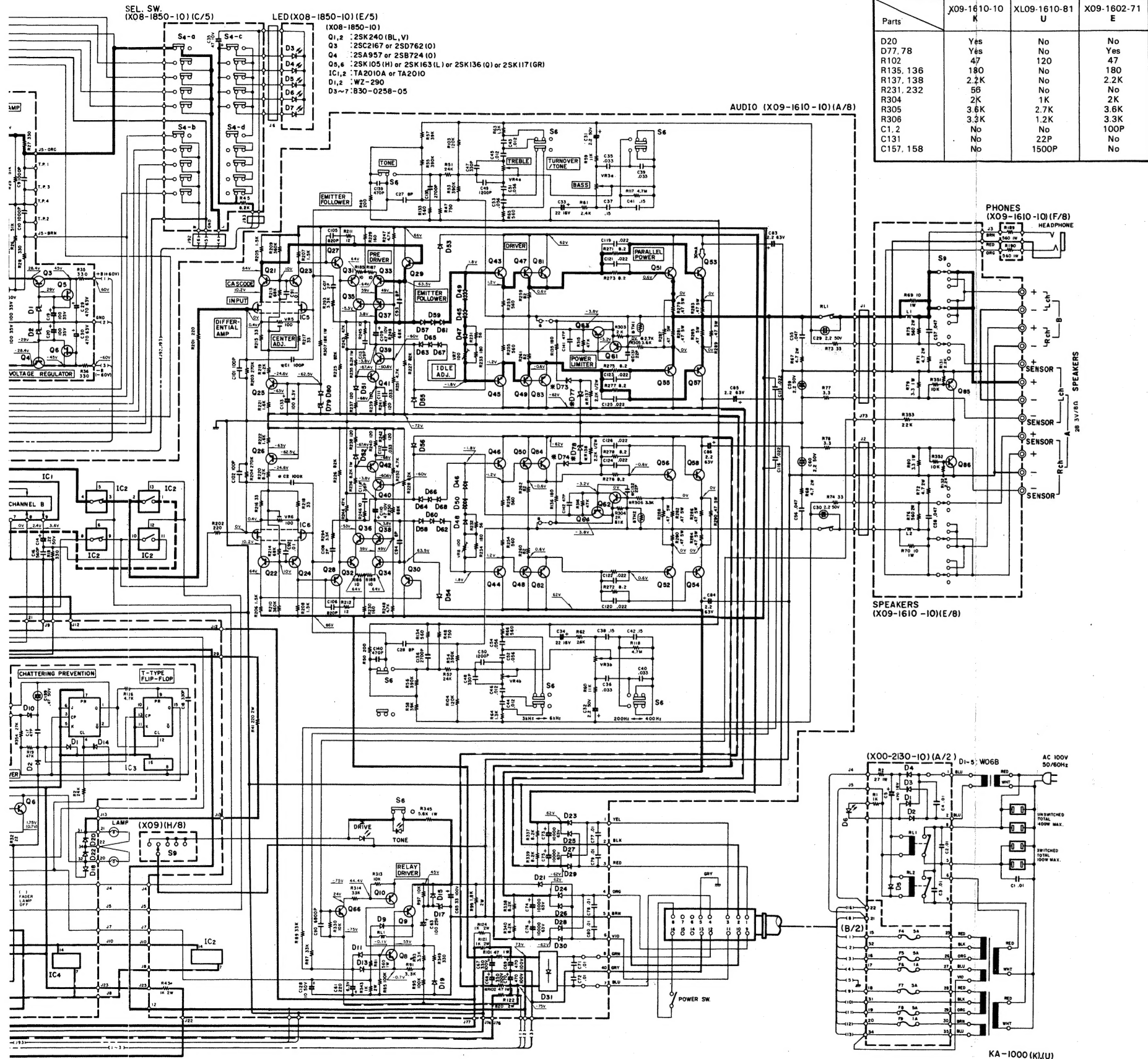
**GENERAL**  
Power Consumption ..... 5.7 (UL/CSA) 800 watts (IEC)  
AC Outlets ..... Switched 2, Unswitched 2  
Dimensions  
Amplifier (KA-1000) ..... 440 mm (17-5/16")  
Power Supply (KA-1000-PS) ..... 140 mm (14-1/2")  
W 440 mm (17-5/16")  
H 123 mm (4-7/32")  
D 375 mm (14-3/4")  
Net Weight  
14.4 kg (31.7 lb)  
8.0 kg (17.6 lb)

\* Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier in U.S.A.

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Kenwood strebt ständige Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.



Parts	X09-1610-10 K	X09-1610-81 U	X09-1602-71 E
D20	Yes	No	No
D77.78	Yes	No	Yes
R102	47	120	47
R135.136	180	No	180
R137.138	2.2K	No	2.2K
R231.232	56	No	No
R304	2K	1K	2K
R305	3.6K	2.7K	3.6K
R306	3.3K	1.2K	3.3K
C1.2	No	No	100P
C131	No	22P	No
C157.158	No	1500P	No

DC voltages are measured by a VOM with 25 k $\Omega$ /V input impedance.